



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 12th MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

WEB-conference, 8 November 2022

(Agreed on 18 November 2022)

Participants

- Working Group Members:
Bojan Blagojevic, Declan Bolton, Sara Bover Cid, Roland Lindqvist, Inge Van Damme
- BIOHAZ Panel:
Maarten Nauta
- EFSA:
BIOHAW Unit: Michaela Hempen, Winy Messens, Ancuta Cezara Simon

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

4. Scientific topic(s) for discussion

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

4.1. Scientific opinion on the microbiological safety of aged meat³

The WG chair provided feedback from the BIOHAZ panel meeting when the draft opinion was discussed. The panel generally agreed with the draft and comments were mostly in relation to the uncertainty assessment. The BIOHAZ Panel suggested to add certainty ranges to the answers to ToR4.

During this WG meeting, Maarten Nauta, BIOHAZ panel member, joined to facilitate the discussion and agreement of the certainty ranges for the answers to ToR 4. In preparation to the meeting, WG members were asked to provide individual certainty ranges. These were discussed in the WG and based on the arguments provided, a consensus certainty range was agreed and added to the conclusions.

The remaining comments of the BIOHAZ panel were addressed.

The draft opinion will be presented to the BIOHAZ panel for possible adoption in December 2022.

5. Next meetings

There are no further WG meetings planned.

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 11th MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

WEB-conference, 4 October 2022

(Agreed on 7 October 2022)

Participants

- Working Group Members:
Bojan Blagojevic, Declan Bolton, Sara Bover Cid, Roland Lindqvist, Inge Van Damme
- Hearing Expert:
Not applicable
- European Commission:
Kris De Smet
- EFSA:
BIOHAW Unit: Michaela Hempen, Winy Messens

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

4. Scientific topic(s) for discussion

4.1. Scientific opinion on the microbiological safety of aged meat³

The WG discussed the uncertainty assessment. Sources of uncertainty and their possible impact on the conclusions are described in a table. The methodology used for the uncertainty analysis was discussed and will be added to the methodology section of the draft opinion. Both qualitative and quantitative approaches will be used. The outcome of the uncertainty assessment will be added to the assessment section and to the conclusions. The WG then addressed comments from the BIOHAZ Panel and from the European Commission. The conclusions and recommendations will be revised. Tasks and deadlines were agreed. The draft opinion will be presented to the BIOHAZ panel for thorough on 26-27 October 2022 and adoption is foreseen in December 2022.

5. Next meetings

The next WG meetings will be held on 8 November 2022.

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 10th MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

WEB-conference, 6 September 2022

(Agreed on 12 September 2022)

Participants

- Working Group Members:
 - Bojan Blagojevic
 - Declan Bolton
 - Sara Bover Cid
 - Roland Lindqvist
 - Inge Van Damme
- Hearing Expert:
 - Not applicable
- European Commission:
 - Not applicable
- EFSA:
 - BIOHAW Unit: Michaela Hempfen, Winy Messens

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

4. Scientific topic(s) for discussion

4.1. Scientific opinion on the microbiological safety of aged meat³

The sections answering ToRs 1, 2 and 5 were redrafted since the last WG ~~comments~~ addressing the comments of the BIOHAZ Panel. The new approach and modelling results to address ToRs 3 and 4 were discussed and agreed. The approach to assess the uncertainty was agreed and a table describing the sources of uncertainty and potential impact on conclusions is in the appendix to the opinion. Tasks and deadlines were agreed.

The draft opinion will be presented to the BIOHAZ panel for first reading on 18/29 September 2022 and adoption is foreseen in December 2022.

5. Next meetings

The next meeting is scheduled for 4 October, 2022.

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 9th MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

Parma (EFSA premises), 12 July 2022

(Agreed on 25 July 2022)

Participants

■ Working Group Members:

Bojan Blagojevic
Declan Bolton
Sara Bover Cid
Roland Lindqvist
Inge Van Damme

■ Hearing Expert:

Not applicable

■ European Commission:

Not applicable

■ EFSA:

BIOHAW Unit: Kateryna Chuzhakina, Michaela Hempten, Maria Francesca Iulietto, Winy Messens

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

4. Scientific topic(s) for discussion

4.1. Scientific opinion on the microbiological safety of aged meat³

The WG chair presented the BIOHAZ Panel feedback from the plenary meeting in June and the WG addressed the new comments received. The new graphs added to address ToR3 and ToR4 were thoroughly discussed, and it was agreed on the way to present the results of the model and the comparison with standard fresh meat. Additional scenarios will be modelled and discussed at the next WG meeting. Tasks and deadlines were agreed. EFSA is requested to deliver its Scientific Opinion by December 2022.

5. Next meetings

The next meeting is scheduled for September 6, 2022.

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 8th MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

WEB-conference, 14 June 2022

(Agreed on 24 June 2022)

Participants

- Working Group Members:
 - Bojan Blagojevic
 - Declan Bolton
 - Sara Bover Cid
 - Roland Lindqvist
 - Inge Van Damme
- Hearing Expert:
 - Not applicable
- European Commission:
 - Kris De Smet (EC, DG Health and Food Safety, Unit G4; afternoon)
- EFSA:
 - BIOCONTAM Unit: Michaela Hempen, Maria Francesca Iulietto, Winy Messens

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

4. Scientific topic(s) for discussion

4.1. Scientific opinion on the microbiological safety of aged meat³

The WG discussed the BIOHAZ Panel feedback from the plenary meeting in May and adjustments to the modelling approach in response to the panel's comments were presented. After discussion on the modelling approach and in agreement with the European Commission, the WG decided that modelling will include standard fresh meat until the end of aging process. The following stages until the end of shelf life, including trimming, will be assessed qualitatively owing to the large uncertainties. Concerning guidelines on good hygiene practices for meat aging, the EFSA secretariat had requested information from MRA network members which resulted in two documents from Belgium and Australia. The European Commission pointed out the importance of this section in response to TOR 5. Tasks and deadlines were agreed. EFSA is requested to deliver its Scientific Opinion by December 2022.

5. Next meetings

The next meeting is scheduled for 12 July 2022.

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 7th MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

WEB-conference, 26 April 2022

(Agreed on 3 May 2022)

Participants

- Working Group Members:
 - Bojan Blagojevic
 - Declan Bolton
 - Sara Bover Cid
 - Roland Lindqvist
 - Inge Van Damme
- Hearing Expert:
 - Not applicable
- European Commission:
 - Not applicable
- EFSA:
 - BIOCONTAM Unit: Michaela Hempen, Maria Francesca Iulietto

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

4. Scientific topic(s) for discussion

4.1. Scientific opinion on the microbiological safety of aged meat³

The WG discussed experts' contributions to the draft scientific opinion and the first results from the model simulation to answer ToR 3. The approach to address ToR 4 was also discussed and the WG decided to explain the complexity and possible solutions to the next BIOHAZ Panel meeting for feedback. One of the challenges is how to cover the large variation in transport and storage at the end of the aging process. For TOR 5, the WG agreed to expand the search on national or industry guidelines on GHP in meat aging.

Tasks and deadlines were agreed. EFSA is requested to deliver its Scientific Opinion by December 2022.

5. Next meetings

The next meeting is scheduled for 14 June 2022.

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 6th MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

WEB-conference, 29 March 2022

(Agreed on 7 April 2022)

Participants

- Working Group Members:
 - Bojan Blagojevic
 - Declan Bolton
 - Sara Bover Cid
 - Roland Lindqvist
 - Inge Van Damme
- Hearing Expert:
 - Not applicable
- European Commission:
 - Not applicable
- EFSA:
 - BIOCONTAM Unit: Michaela Hempen, Maria Francesca Iulietto

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

4. Scientific topic(s) for discussion

4.1. Scientific opinion on the microbiological safety of aged meat³

The WG chair provided feedback from the BIOHAZ Panel meeting held on 16/17 March 2022. The panel had requested additional clarification on the growth of moulds and production of secondary metabolites and on the selection of pathogens to be included in the assessment.

The WG discussed the new contributions on the draft scientific opinion and the preliminary results from the model simulation (TOR 3); the new section addressing TOR 5 was commented for the first time. It was agreed with EC that answers to TOR 5 can extend to recommended control measures in addition GHP.

Tasks and deadlines were agreed. EFSA is requested to deliver its Scientific Opinion by December 2022.

5. Next meetings

The next meeting is scheduled for 26 April 2022.

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 5th MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

WEB-conference, 10 February 2022

(Agreed on 16 February 2022)

Participants

- Working Group Members:
 - Bojan Blagojevic
 - Declan Bolton
 - Sara Bover Cid
 - Roland Lindqvist
 - Inge Van Damme
- Hearing Expert:
 - Nino Terjung
- European Commission:
 - Not applicable
- EFSA:
 - BIOCONTAM Unit: Michaela Hempten, Maria Francesca Iulietto, Winy Messens

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted anticipating item 6, before item 5.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

4. Scientific topic(s) for discussion

4.1. Scientific opinion on the microbiological safety of aged meat³

The WG chair provided feedback from the BIOHAZ Panel meeting on 8/9 December 2021 and 26/27 January, in particular on the predictive modelling approach to answer TOR 3.

The WG discussed the scenarios to be implemented in the model answering TOR 3, which will be divided in various stages to represent the aging process. The model outcome is an estimation of the log increase of bacterial growth in dry and wet aged meat compared to standard fresh meat.

The WG discussed the results of a literature review conducted to address ToR1 and ToR2 and defined some additional information to be collected also addressing TOR 5. The replies received to a questionnaire sent to stakeholders were presented.

The hearing expert replied to questions on meat aging practices including restaurants.

The WG discussed contributions to the draft opinion was discussed. Tasks and deadlines were agreed. EFSA is requested to deliver its Scientific Opinion by December 2022.

5. Next meetings

The next meeting is scheduled for 29 March 2022.

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 4th MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

WEB-conference, 23 November 2021

(Agreed on 3 December 2021)

Participants

- Working Group Members:
 - Bojan Blagojevic
 - Declan Bolton
 - Sara Bover Cid
 - Roland Lindqvist
 - Inge Van Damme
- Hearing Experts:
 - Not applicable
- European Commission:
 - Not applicable
- EFSA:
 - BIOCONTAM Unit: Michaela Hempten, Maria Francesca Iulietto, Winy Messens

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

4. Scientific topic(s) for discussion

4.1. Scientific opinion on the microbiological safety of aged meat³

The WG provided feedback from the BIOHAZ Panel meeting on 20/21 October 2021, in particular on the discussion about the predictive modelling to answer TORs 3 and 4. The Panel agreed with the modular approach. A discussion point raised by the Panel concerned the inclusion of inactivating or competing effects.

The BIOHAZ secretariat provided feedback on the replies received to a questionnaire that was sent to industry associations with the purpose to collect information about dry and wet aging practices in Europe. Only two replies were received that did not provide enough detail to inform the modelling. The WG agreed to revise the questionnaire and re-send it focussing on the most relevant details on applied aging conditions details.

The WG discussed the predictive modelling approach to address TORs 3 and 4. It is foreseen to use a stepwise approach. In a first step, a growth/no growth interphase model could be used to identify relevant pathogens for different scenarios. In another step, the growth of relevant pathogens during the aging process would be estimated. The outcome is described as log increase.

The draft opinion was discussed, in particular the tables summarising dry and wet aging conditions described in the scientific literature. Tasks and deadlines were agreed.

EFSA is requested to deliver its Scientific Opinion by December 2022.

5. Next meetings

The next meeting is scheduled for 10 February 2022.

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 3rd MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

WEB-conference, 21 September 2021

(Agreed on 27 September 2021)

Participants

- Working Group Members:
 - Bojan Blagojevic
 - Declan Bolton
 - Sara Bover Cid
 - Roland Lindqvist
 - Inge Van Damme

- Hearing Experts:
 - Nino Terjung

- European Commission:
 - Not applicable

- EFSA:
 - BIOCONTAM Unit: Michaela Hempen, Maria Francesca Iulietto, Winy Messens

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

4. Scientific topic(s) for discussion

4.1. Scientific opinion on the microbiological safety of aged meat³

The WG provided feedback from the BIOHAZ Panel meeting on 15/16 September 2021, in particular on the discussion of the draft protocol, which was accepted by the Panel.

The hearing expert, Dr. Nino Terjung, gave a presentation on current practices on dry and wet aging, based on the results of a published review article (Terjung et al., 2021).ⁱ

The results of the literature review were discussed. It was agreed that also articles from non-EU countries will be included and that the publication year is limited to 2000-2021.

A draft questionnaire was discussed which will be finalised and sent to competent authorities and industry associations to gather information on the conditions for dry and wet meat aging.

The modelling approach for TORs 3 and 4 was discussed. The model will include different scenarios for the ageing process (different scenarios for both dry and wet ageing). The model choice and details will depend on the availability of data on the environmental conditions during ageing (time, temperature, pH, water activity/relative humidity).

EFSA is requested to deliver its Scientific Opinion by December 2022.

5. Next meetings

The next meeting is scheduled for 23 November 2021.

ⁱ <https://doi.org/10.1016/j.meatsci.2020.108355>

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 2nd MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

WEB-conference, 17 June 2021

(Agreed on 23 June 2021)

Participants

- Working Group Members:
Bojan Blagojevic
Declan Bolton
Sara Bover Cid
Roland Lindqvist
Inge Van Damme

- Hearing Experts:
Not Applicable

- European Commission:
Kris De Smet (DG SANTE)

- EFSA:
BIOCONTAM Unit: Michaela Hempen, Maria Francesca Iulietto, Winy Messens

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

4. Scientific topic(s) for discussion

4.1. Scientific opinion on the microbiological safety of aged meat³

The WG discussed the terms of reference and requested some clarifications from EC. It was clarified that for dry ageing beef will be included and for wet-ageing beef, pork and lamb. Meat ageing done at private homes is excluded from the assessment. The end point of the assessment is the end of shelf-life. There is no clear definition of 'standard fresh meat' and the differentiation between maturation of 'standard fresh meat' versus 'prolonged' ageing. Hence, the WG will provide a definition for the purpose of the assessment. It was further agreed the assessment will include microbiological hazards that are capable of growth during the ageing process and that the comparison will be expressed as a log difference. The EC agreed with this approach.

The draft protocol was discussed, defining assessment questions and sub-questions, and the approach and methods to answer those.

The modelling approach for TORs 3 and 4 was discussed. The model will include different scenarios for the ageing process (different scenarios for both dry and wet ageing). The model choice and details will depend on the availability of data on the environmental conditions during ageing (time, temperature, pH, water activity/relative humidity).

A questionnaire will be developed and distributed to competent authorities and industry associations to gather information on meat aging practices. In addition, hearing experts may be invited to WG meetings.

EFSA is requested to deliver its Scientific Opinion by December 2022.

5. Next meetings

The next meeting is scheduled for 21 September 2021.

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 1st MEETING OF THE WORKING GROUP ON MICROBIOLOGICAL SAFETY OF AGED MEAT

WEB-conference, 10 May 2021

(Agreed on 17 May 2021)

Participants

- Working Group Members:
Bojan Blagojevic
Declan Bolton
Sara Bover Cid
Roland Lindqvist
Inge Van Damme

- Hearing Experts:
Not Applicable

- European Commission and/or Member States representatives:
Not Applicable

- EFSA:
BIOCONTAM Unit: Michaela Hепен, Maria Francesca Iulietto, Winy Messens

1. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received.

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹ and the Decision of the Executive Director on Competing Interest Management², EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

4. Scientific topic(s) for discussion

4.1. Scientific opinion on the microbiological safety of aged meat³

Post-mortem ageing (or ripening or conditioning) is a natural process when meat is subjected to controlled refrigerated storage conditions. It implies cold storage of fresh muscle far beyond the onset of rigor mortis and the enzymatic and physico-chemical modifications that confers the typical meat characteristics (in particular tenderness and flavour) to the skeletal muscles as in the case of the conventional maturation of carcasses. While meat from any species could be aged, post-mortem ageing is generally limited to beef, due to the relative youth of pork, lamb, and veal at the time of slaughter. The length of the process is variable, but routinely 14 days are considered the minimum period to obtain the typical characteristics of the aged meat. The aim of meat ageing is to allow and enhance the palatability of meat according to consumers' expectations in terms of meat characteristics (i.e. improving the tenderness, juiciness and flavour). There are two types of ageing techniques: dry ageing and wet ageing.

Meat for ageing must be derived from carcasses that are considered fit for human consumption after the ante-mortem and post-mortem inspections. However, such inspection, does not routinely detect most public health microbiological hazards.

The European Commission asks EFSA to deliver a scientific opinion on the impact of prolonged ageing of meat using the dry-ageing process for beef and the wet-ageing process for ungulates on the load of microbiological hazards and spoilage bacteria in comparison with standard fresh meat.

More specifically, EFSA is asked to provide an overview of the current practices for dry-ageing and wet-ageing of meat, to identify public health-relevant microbiological hazards and spoilage bacteria occurring in the process, to assess the impact that dry-ageing and wet-ageing could have on the load of public health-relevant microbiological hazards and spoilage bacteria, to provide conditions that would result in a similar or lower load, and to recommend additional good hygiene practices specific to the production and storage of dry-aged and wet-aged meat. EFSA is requested to deliver its Scientific Opinion by December 2022.

The WG discussed the terms of reference and agreed that it needs to be clarified what is considered 'standard fresh meat' to which dry- and wet-aged meat is then compared. It was agreed that only those microbiological hazards with the capability of growth will be assessed. A general outline for the predictive microbiology was suggested considering a scenario analysis with a mean and worst-case scenario.

5. Next meetings

The next meeting is scheduled for 17 June 2021.

¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³ <https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527>