



SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 7^{TH} MEETING OF THE WORKING GROUP ON *LISTERIA MONOCYTOGENES* IN FROZEN FRUIT, VEGETABLES AND HERBS

Held on 30-31 January 2020, Parma

(Agreed on 20 February 2020)

Participants

Working Group Members:
 Ana Allende, Sara Bover-Cid, Kieran Jordan, Roland Lindqvist, Imca Sampers, Martin Wagner

EFSA:

AMU Unit: Marios Georgiadis, Olaf Mosbach-Schulz

BIOCONTAM Unit: Winy Messens, Maria Teresa Da Silva Felicio

1. Welcome and apologies for absence

The Chair welcomed the participants. Apologies were received from Kris De Smet and Martial Plantady (DG SANCO).

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

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. Agreement of the minutes of the 6th Working Group meeting held on 12-13 December 2019, Parma

The minutes of the 6th Working Group meeting were agreed by written procedure on 6 January 2020.³

5. Scientific topic(s) for discussion

5.1. Listeria monocytogenes in frozen fruit, vegetables and herbs. The WG Chair provided a short feedback of the discussion held at the 133rd BIOHAZ plenary meeting (29-30 January 2020) where the draft opinion was presented to the Panel for thorough reading and in particular, the concluding remarks for each section and the conclusions were carefully reviewed. The comments received were discussed. For term of reference 1 (ToR1), the panel agreed to conduct the uncertainty assessment (UA) without EKE. Minor comments were discussed in the assessment of ToR 2 and ToR 3. The panel was informed that the EC requested to also conduct the evaluation of the impact of setting microbiological targets for Listeria monocytogenes in frozen vegetables. It was explained and agreed how this would be carried out. During the WG meeting, the comments from the panel were addressed and the UA for the whole assessment was completed. The proposal for assessing intermediate levels of L. monocytogenes at the end of the production process of blanched frozen vegetables that would be compatible with 100 CFU/g at the end of the shelf-life was discussed. Tasks were allocated to EFSA staff and WG experts.

6. Next meeting(s)

This was the last WG meeting.

⁴ http://registerofquestions.efsa.europa.eu/roqFrontend/questionLoader?question=EFSA-Q-2018-01006





SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 6^{TH} MEETING OF THE WORKING GROUP ON *LISTERIA MONOCYTOGENES* IN FROZEN FRUIT, VEGETABLES AND HERBS

Held on 12-13 December 2019, Parma

(Agreed on 6 January 2020)

Participants

Working Group Members:

Ana Allende, Sara Bover-Cid, Kieran Jordan, Roland Lindqvist, Imca Sampers, Martin Wagner

EFSA:

AMU Unit: Marios Georgiadis

BIOCONTAM Unit: Winy Messens, Maria Teresa Da Silva Felicio

1. Welcome and apologies for absence

The Chair welcomed the participants. Apologies were received from Kris De Smet and Martial Plantady (DG SANCO).

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

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. Agreement of the minutes of the 5th Working Group meeting held on 18 November 2019, web-conference

The minutes of the 5^{th} Working Group meeting were agreed by written procedure on 25 November 2019.3

5. Scientific topic(s) for discussion

5.1. Listeria monocytogenes in frozen fruit, vegetables and herbs4. The WG Chair provided a short feedback of the discussion held at the 132nd BIOHAZ plenary meeting (11-12 December 2019). For ToR 1, the model outcomes of the probability of illness per serving for elderly males and females upon consumption of blanched frozen vegetables were discussed and compared with RTE foods. Two scenarios were assessed based on consumption cooked or uncooked. The first step of the uncertainty analysis was concluded, namely to list the potential sources of uncertainty identified in the assessment using the mgQMRA model and assess the impact that these have on the factor itself (e.g. prevalence), on the probability of illness per serving of blanched frozen vegetables as non-cooked or cooked and on the number of cases of frozen vegetables non-cooked and cooked. The second step of the uncertainty assessment (EKE) was initiated; that was to adjust the probability of illness for the worst-case and best-case scenarios for the mean probability of listeriosis per serving of blanched frozen vegetables consumed without cooking by elderly (64 to 75 years old) females/males in the EU. The assessment related to ToR 2 was not discussed. The text elaborated for ToR 3 was discussed in detail. Concluding remarks would be added and conclusions shortened. Tasks were allocated to EFSA staff and WG experts.

6. Next meeting(s)

The next WG meeting has been scheduled on 30 (PM)-31 January 2020 in Parma.

⁴ http://registerofquestions.efsa.europa.eu/roqFrontend/questionLoader?question=EFSA-Q-2018-01006





SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 5^{TH} MEETING OF THE WORKING GROUP ON *LISTERIA MONOCYTOGENES* IN FROZEN FRUIT, VEGETABLES AND HERBS

Held on 18 November 2019, WEB-conference

(Agreed on 25 November 2019)

Participants

Working Group Members:
 Ana Allende, Sara Bover-Cid, Kieran Jordan, Roland Lindqvist, Imca Sampers, Martin Wagner

■ EFSA:

AMU Unit: Marios Georgiadis, Olaf Mosbach-Schulz

BIOCONTAM Unit: Winy Messens, Maria Teresa Da Silva Felicio

1. Welcome and apologies for absence

The Chair welcomed the participants. Apologies were received from Kris De Smet and Martial Plantady (DG SANCO).

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

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. Agreement of the minutes of the 4th Working Group meeting held on 1 October 2019, web-conference

The minutes of the 4th Working Group meeting were agreed by written procedure on 15 October 2019.³

5. Scientific topic(s) for discussion

Listeria monocytogenes in frozen fruit, vegetables and herbs4. The WG Chair provided the feedback of the discussion held at the 131st BIOHAZ plenary meeting (23-24 October 2019). The final draft guidance document of PROFEL (European Association of Fruit and Vegetable Processors) has been shared with the WG. PROFEL shared it for consultation with DG SANTE and relevant stakeholder organisations. For ToR 1, the input parameters for the quantitative approach were fixed and scenarios decided. The steps for the uncertainty assessment were discussed and an expert knowledge elicitation (EKE) protocol will be prepared. For ToR 2, a discussion was held on the factors affecting contamination and/or growth of L. monocytogenes in blanched frozen vegetables during and after processing. The WG members considered that during the processing, growth on the vegetables would not take place, while after the processing, (cross-)contamination of the final product would not be considered as the contamination introduced by the consumer is out of the scope of the mandate. The factors listed would need to be checked carefully. For ToR 3, the efficacy of the control options could be evaluated for the novel methods, stating that their efficacy has not been proved in an industrial setting. The importance of water was discussed for ToR2 and it was considered to elaborate on the pre-requisite programme water control. Also, further consideration is needed of the PROFEL guidance. The uncertainty tables for ToR 2 and 3 may be redundant, and removed if so, when the information included is obvious. Tasks were allocated to EFSA staff and WG experts.

6. Next meeting(s)

The next WG meetings have been scheduled on 12 (PM)-13 December (Parma) and middle February (web-conference).

⁴ http://registerofquestions.efsa.europa.eu/rogFrontend/questionLoader?question=EFSA-Q-2018-01006





SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 4^{TH} MEETING OF THE WORKING GROUP ON *LISTERIA MONOCYTOGENES* IN FROZEN FRUIT, VEGETABLES AND HERBS

Held on 1 October 2019, WEB-conference

(Agreed on 15 October 2019)

Participants

Working Group Members:

Ana Allende, Sara Bover-Cid, Kieran Jordan, Roland Lindqvist, Imca Sampers, Martin Wagner

Hearing Experts¹:

Liesbeth Jacxsens, Nigel Thorgrimsson, Mieke Uyttendaele (representing PROFEL- European Association of Fruit and Vegetable Processors)

European Commission and/or Member States representatives:

Kris De Smet (DG SANCO)

EFSA:

BIOCONTAM Unit: Winy Messens, Maria Teresa Da Silva Felicio

1. Welcome and apologies for absence

The Chair welcomed the participants. The WG was informed that Martial Plantady will be the desk officer in DG SANTE taking over from Petros Angelopoulos. Apologies were received from Martial Plantady (DG SANCO). The hearing experts Liesbeth Jacxsens, Nigel Thorgrimsson and Mieke Uyttendaele were invited to part of the WG meeting representing PROFEL.

2. Adoption of agenda

The agenda was adopted without changes.

¹ As defined in Article 17 of the Decision of the Executive Director concerning the selection of members of the Scientific Committee, the Scientific Panels, and the selection of external experts to assist EFSA with its scientific work: http://www.efsa.europa.eu/en/keydocs/docs/expertselection.pdf.





3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence² and the Decision of the Executive Director on Competing Interest Management^{3,} 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. Agreement of the minutes of the 3rd Working Group meeting held on 1-2 July 2019, Parma

The minutes of the 3rd Working Group meeting were agreed by written procedure on 15 July 2019.⁴

5. Hearing Expert

Prof Jacxsens, Nigel Thorgrimsson (Chairman PROFEL Technical and Legislation Committee) and Prof Uyttendaele were invited to update the WG on the work on PROFEL's EU Hygiene guidelines for the production of frozen fruits, vegetables and herbs in control of *Listeria monocytogenes*.

In accordance with EFSA's Policy on Independence⁵ and the Decision of the Executive Director on Competing Interest Management⁶, EFSA invited Prof Jacxsens, Nigel Thorgrimsson and Prof Uyttendaele to submit an Annual Declaration of Interest. Their participation in the present meeting was limited to providing testimony, without the possibility to take on any role undertaken by members of the Working Group (i.e. not possible to draft or be involved in the discussion or the adoption of a scientific output), in accordance with the applicable legal framework⁷.

6. Scientific topic(s) for discussion

Chair provided the feedback of the discussion held at the 129th and 130th BIOHAZ plenary meetings (3-4 July 2019 and 25-26 September 2019). Liesbeth Jacxsens presented on behalf of PROFEL the final draft of the industry guide on good practices/HACCP to control Listeria in the frozen fruit and vegetables sector. She considered the scope and objective, applied working methodology, overview of the production steps, content of the guidelines. The guidelines would include the results of the challenge tests in the Appendix. Mieke Uyttendaele presented on behalf of PROFEL the outcome of the challenge tests to evaluate the potential growth and risk communication. This was followed by a discussion. For ToR 1, it was agreed to remove semi-quantitative approaches (FoNAO, Risk Ranger and Probabilistic Risk Ranger) and keep the quantitative model and outbreak analysis. The population group considered for the model would be the elderly (65-75 years old) as agreed with the requestor. A discussion was held on the scenarios and input parameters to use. For ToR 2 and 3, the information provided by PROFEL would be considered. The WG members were

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

³ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

⁴ http://www.efsa.europa.eu/sites/default/files/wgs/biological-hazards/wg-listeriaffvh.pdf

http://www.efsa.europa.eu/sites/default/files/corporate publications/files/policy independence.pdf

⁶ http://www.efsa.europa.eu/sites/default/files/corporate publications/files/competing interest management 17.pdf

⁷ Decision of the Executive Director on Competing Interest Management, Article 9:

http://www.efsa.europa.eu/sites/default/files/corporate publications/files/competing interest management 17.pdf

⁸ http://registerofquestions.efsa.europa.eu/rogFrontend/questionLoader?question=EFSA-Q-2018-01006





reminded to identify and list the sources of uncertainty that have been identified and to characterise their overall impact on the assessment conclusion. Tasks were allocated to EFSA staff and WG experts.

7. Next meeting(s)

The next WG meetings have been scheduled on 18 November (web-conference), 13 December (Parma), and middle February (web-conference).





SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 3RD MEETING OF THE WORKING GROUP ON *LISTERIA*MONOCYTOGENES IN FROZEN FRUIT, VEGETABLES AND HERBS

Held on 1-2 July 2019, Parma

(Agreed on 15 July 2019)

Participants

- Working Group Members:
 Ana Allende, Sara Bover-Cid, Kieran Jordan, Roland Lindqvist, Imca Sampers, Martin Wagner
- European Commission and/or Member States representatives:Petros Angelopoulos (DG SANCO)
- EFSA:

BIOCONTAM Unit: Winy Messens

1. Welcome and apologies for absence

The Chair welcomed the participants. Apologies were received from Kris De Smet (DG SANCO).

2. Adoption of agenda

The agenda was adopted without changes.

3. Declarations of Interest of Working Groups members

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. Agreement of the minutes of the 2nd Working Group meeting held on 7 May 2019, WEB-conference

The minutes of the 2nd Working Group meeting were agreed by written procedure on 24 May 2019.³

5. Scientific topic(s) for discussion

5.1. Listeria monocytogenes in frozen fruit, vegetables and herbs4. The WG Chair provided the feedback of the discussion held at the 128th BIOHAZ plenary meeting (5-6 June 2019). The flowcharts for the production of blanched frozen vegetables and for their preparation and consumption were discussed. For answering Terms of Reference (ToR) 1 it was proposed to treat all blanched vegetables as one group to compare the risk posed by Listeria monocytogenes with better known risks. Based on their consumption two categories of blanched frozen vegetables would be considered: those consumed as ready to eat (RTE) food and those consumed cooked. A semi-quantitative approach (using Risk Ranger and/or Probabilistic Risk Ranger) and a quantitative approach (modified gOMRA) would be further considered. Data will be searched for and the information received through the Microbiological Risk Assessment (MRA) screened. For ToR 2, the aim is to add comprehensive tables including all the processing steps from the flowcharts, while for ToR 3, the potential control options will be divided in control points, critical control points and prerequisite programme. The WG members were reminded to identify and list the sources of uncertainty that have been identified and to characterise their overall impact on the assessment conclusion. An example of a table was presented. Some tasks were allocated to EFSA staff and WG experts.

6. Next meeting(s)

The next WG meetings have been scheduled on 1 October (web-conference), 18 November (web-conference), 13 December (Parma), middle February (web-conference).

³ http://www.efsa.europa.eu/sites/default/files/wgs/biological-hazards/wg-listeriaffvh.pdf

http://registerofquestions.efsa.europa.eu/roqFrontend/questionLoader?question=EFSA-Q-2018-01006





SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 2ND MEETING OF THE WORKING GROUP ON *LISTERIA MONOCYTOGENES* IN FROZEN FRUIT, VEGETABLES AND HERBS

Held on 7 May 2019, WEB-conference

(Agreed on 24 May 2019)

Participants

- Working Group Members:
 Ana Allende, Sara Bover-Cid, Kieran Jordan, Roland Lindqvist, Imca Sampers, Martin Wagner
- EFSA:
 BIOCONTAM Unit: Maria Teresa da Silva Felício, Winy Messens

1. Welcome and apologies for absence

The Chair welcomed the participants. Apologies were received from Petros Angelopoulos and Kris De Smet (DG SANCO).

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 Management^{2,} 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. Agreement of the minutes of the 1st Working Group meeting held on 18 March 2019, Parma

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





The minutes of the 1^{st} Working Group meeting were agreed by written procedure on 27 March 2019.3

5. Scientific topic(s) for discussion

5.1. Listeria monocytogenes in frozen fruit, vegetables and herbs⁴. The WG Chair provided the feedback of the discussion held at the 127th BIOHAZ plenary meeting (11 April 2019). Information received through the European Association of Fruit and Vegetable Processing Industries (Profel) related to the type of fruits, vegetables and herbs (FVH) that are blanched before the freezing process was discussed. Based on this, not any fruit and typically any herbs are blanched while some or all groups of vegetables may be blanched. Therefore, as the assessment is restricted to blanched frozen FVH, the WG concluded that only vegetables are in the scope of the assessment. The interpretation and approach to the three ToRs were further discussed and an update about the work done for the three ToRs provided. The WG agreed to ask the representatives in the Microbiological Risk Assessment (MRA) network during their meeting on 21-22 May 2019 for additional information. The WG members were reminded to consider the uncertainty sources encountered during the assessment and list the minimum uncertainties that should be included. Some tasks were allocated to EFSA staff and WG experts.

6. Next meeting(s)

The next WG meetings have been scheduled 1-2 July (Parma), 30 September (web-conference), 18 November (web-conference), 13 December (Parma), middle February (web-conference).

⁴ http://registerofquestions.efsa.europa.eu/rogFrontend/questionLoader?question=EFSA-Q-2018-01006





SCIENTIFIC PANEL ON BIOLOGICAL HAZARDS

MINUTES OF THE 1ST MEETING OF THE WORKING GROUP ON *LISTERIA*MONOCYTOGENES IN FROZEN FRUIT, VEGETABLES AND HERBS

Held on 18 March 2019, Parma

(Agreed on 27 March 2019)1

Participants

- Working Group Members:²
 Ana Allende, Sara Bover-Cid, Kieran Jordan, Roland Lindqvist, Imca Sampers, Martin Wagner
- Hearing Experts³: Martin Wiedmann
- European Commission and/or Member States representatives:Petros Angelopoulos, Kris De Smet (DG SANCO)
- EFSA:

BIOCONTAM Unit: Maria Teresa da Silva Felício, 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

 $^{^{1}}$ Minutes should be published within 15 working days of the final day of the relevant meeting.

² Indicate first full name and then surname (John Smith) all throughout the document.

³ As defined in Article 17 of the Decision of the Executive Director concerning the selection of members of the Scientific Committee, the Scientific Panels, and the selection of external experts to assist EFSA with its scientific work: http://www.efsa.europa.eu/en/keydocs/docs/expertselection.pdf.





In accordance with EFSA's Policy on Independence⁴ and the Decision of the Executive Director on Competing Interest Management^{5,} 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. Hearing Expert

Prof Wiedmann was invited to provide insights from US outbreaks and recalls related to the microbial safety of frozen food, produce, and vegetables.

In accordance with EFSA's Policy on Independence⁶ and the Decision of the Executive Director on Competing Interest Management⁷, EFSA invited Prof. Wiedmann to submit an Annual Declaration of Interest. His participation in the present meeting was limited to providing testimony, without the possibility to take on any role undertaken by members of the Working Group (i.e. not possible to draft or be involved in the discussion or the adoption of a scientific output), in accordance with the applicable legal framework⁸.

5. Scientific topic(s) for discussion

5.1. Listeria monocytogenes in frozen fruit, vegetables and herbs⁹. The background and Terms of Reference (ToR) of the mandate received from the European Commission (EC), were introduced to the WG including a short presentation of previous related EFSA work. The WG discussed the three ToRs, clarified these with the EC representative, and agreed on a common understanding of these. Possible approaches to be taken to answer these were discussed. The WG discussed data needs and data sources. The EFSA Scientific Committee's Guidance on Uncertainty Analysis in Scientific Assessments was introduced. The preliminary table of contents of the draft opinion was agreed, WG experts were appointed to further develop each of the sections in the draft opinion and tasks were allocated to EFSA staff and WG experts. A timeline for WG meetings in 2019 was suggested.

6. Next meeting(s)

The next WG meetings have been tentatively scheduled on 7 May (web-conference), 1-2 July (Parma), 30 September (web-conference), 18 November (web-conference), 13 December (Parma), middle February (web-conference).

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

http://www.efsa.europa.eu/sites/default/files/corporate publications/files/competing interest management 17.pdf

http://www.efsa.europa.eu/sites/default/files/corporate publications/files/policy independence.pdf

⁷ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

⁸ Decision of the Executive Director on Competing Interest Management, Article 9:

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