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# Minutes of the Focus Group Meeting – 9 March 2023

Deliverable 2.1

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# Authors

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# Revision history

| Version | Date | Author(s) | Reviewer | Modifications |
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| 1.1 | 13/03/2023 | VF/FF | VF | Draft |
| 1.2 | 21/03/2023 | VF/FF | VF | Draft |
| 1.3 | 12/04/2023 | VF/FF | VF | Draft |
| 1.4 | 21/04 | VF/FF | Nathan Meijer and Ine van der Fels-Klerx | Comments to draft |
| 1.5 | 21/04 | VF | VF | Final version |
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# Introduction

This Deliverable presents the minutes of the Focus group meeting, held as part of task 2.1 of WP2. The aim of this meeting was to present and discuss new methods and tools that are going to be developed within this WP of HOLiFOOD with (internal and external) experts. The meeting was set up as a half-day focus group meeting held, online.

***Participants online:***

**WP2 Partners:** *CNR*: Vincenzina Fusco, Francesca Fanelli, Vincenzo Lippolis, Annalisa De Girolamo; Biancamaria Ciasca, Daniele Chieffi; *BfR*: Stefan Weigel. *QUB*: Natasha Logan; Cuong Cao. CRÈME: Badri Nair. *WFSR:* Marco Blokland. *IMEC*: Lex Oosterveld. *ANSES:* Sandra Martin-Latil, Sandra Martin Latil, Sylvie Perelle, Audry Fraisse. *WU:* Heidy den Besten; *WFSR:* Menno van der Voort, Arrizabalaga Larranaga; Johanna Mentani; Denise van de Kamer. *CRÈME:* Badri Nair. *INRAE:* Sandrine Guillou.

**Stakeholders:** *Cereals and Grains Association*; *CNSA-Comitato Nazionale Sicurezza Alimentare, Ministero della Salute*; OEVR Puglia; *Mérieux NutriSciences*; *Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche "Togo Rosati" (Official Control Lab; National Institute for Public Health and the Environment RIVM*; ICC - *International Association for Cereal Science and Technology; Devenish Nutrition*; *Istituto Zooprofilattico Sperimentale della Puglia e della Basilicata; ISEKI-Food Association - European Association for Integrating Food Science and Engineering Knowledge Into the Food Chain; MoniQA Association - International Association for Monitoring and Quality Assurance in the Total Food Supply Chain*; *Austrian Agency for Health and Food Safety; International Association for Cereal Science and Technology.*

Location:
Microsoft Teams

Date and time:
March 9, 2023 / 09:00-11:30 – 12:00-13:00

Minutes preparation: Vincenzina Fusco and Francesca Fanelli (CNR)

# Minutes

***Chair: Vincenzina Fusco***

The agenda of the focus group meeting is added as Annex I. The agenda and all presentations of the meeting are available in the MS Teams site of HOLiFOOD. All HOLiFOOD participants have been given access.

1. Welcome and general introduction. A welcome to all by Vincenzina Fusco, WP2 leader of the HOLiFOOD project. Special welcome to all the stakeholders that agreed to participate to the meeting.
2. Vincenzina Fusco (CNR) presented briefly the HOLiFOOD project, the activities of the WP2 in general and then the Task 2.1: Expert elicitation.
3. Heidi Besten (WU) and Martin-Latile (ANSES) presented the activities of the Task 2.2: Untargeted methods for the detection of microbiological hazards: metagenomics of food samples combined with non-selective enrichment (poultry and legume chains); development of the metagenomic approach for analyzing the virome in legume chain. There were some exchanges among the participants about the methodology to be used, the sensitivity and the target (e.g., Campylobacter in the package) and the possibility to combine the qualitative with the semi-quantitative approach.
4. Marco Blokland (*WFSR*) presented the activities of the Task 2.3: Untargeted methods for detection of chemical hazards that will be performed by WFSR and BFR. The goal of this task is to develop deep learning algorithms based on artificial intelligence for feature detection in MS data from liquid chromatography coupled to high-resolution mass spectrometry. A workflow using blank and spiked chicken meat and maize will be used.
5. Vincenzina Fusco (*CNR*) presented the activities of the task 2.4: Comparative genomics and characterization of pathogens. Selected relevant pathogens detected in task 2.2 will be isolated from poultry and/or legumes/cereals (WU, CNR) samples, stored in the CNR bacterial collection and whole genome sequenced. Genomes will be analysed for virulence determinants, antibiotic resistance, evolution, adaptation to specific ecological niches etc. using available pipelines or using alternative homology-based analysis manually implemented.
6. Vincenzina Fusco (*CNR*) presented the activities of the Task 2.5: Targeted on site/real time methods for early detection of existing and remerging microbiological hazard. Whole genome sequences of pathogenic bacteria will be analysed to design primers and probes for real time PCR assays, which will be validated in the target food supply chains. Lex Oosterveld (*IMEC*) presented the on chip qPCR that will be developed for pathogenic bacteria based on the Ultra fast qPCR already developed for clinical application (SARS-COV-2); the outlook is that the qPCR assay itself is fast (<15 min) and the equipment is compact, making it suitable for on site detection of pathogenic bacteria. Sandra Martin-Latil (*ANSES*) has shown the advantages and drawbacks of the Integrity RT-qPCR that will be developed for the detection of viral genomes in meat samples. Annalisa De Girolamo (*CNR*) presented the rapid strip test for the detection of mycotoxin producing fungi (*Fusarium*).

7. Vincenzina Fusco started the first round table with stakeholders. Stakeholders showed great interest in the methods proposed. Many questions raised on the sensitivity of the methods, the importance of the matrix and the possibility of transposing the methods from one matrix to another (e.g. from maize to wheat). Participants agreed to schedule a second meeting at midterm and one at the end of the project to acknowledge the progress of the activities. The non-targeted approach was recognized as very promising, and stakeholder are opened to potential shared steps of enlarged validation if needed; questions were performed on the possibility to accredit them.
8. After the break Biancamaria Ciasca (CNR) presented the lateral flow devices (rapid and fully automated) that will be developed and optimized for the detection and quantification of glyphosate in cereals and products of animal origin (task 2.6). As product of animal origin milk was proposed, but, pointed out that this target is not included in the proposal matrices, it was agreed that this target could be used as a starting point. Cross reactivity testing will be also performed to meet future MRL definitions of glyphosate expressed as the sum of glyphosate and the acetylated form. Annalisa De Girolamo (CNR) showed the aptamer based rapid tests for aflatoxins/fumonisins in maize and tyramine/histamine in poultry meat. Natasha Logan (QUB) presented the SERS coupled to AI to detect simultaneously 5 pesticides and aflatoxin in maize.
9. Vincenzina Fusco presented the Task 2.7 Persistence and adaptation capacity of pathogens in food matrices and processing environments.
10. Badri Nair (CRÈME) presented the aims of the Task 2.8: Integration of tools and data developed in WP2 in the knowledge and data exchanging. The Data Portal that will be developed to provide secure data storage and for predictive modeling activities, the system architecture, access, submission, users, profile set up etc. were described.
11. Vincenzina Fusco started the second Round table with stakeholders. They again express their will to participate to any next focus group meeting (midterm and final) that will be organized. Mérieux NutriSciences was impressed by the variety of approaches and is opened to support some activities for the evaluation and validation of the microbiologic, virological and chemical approach.
12. Closure of the meeting.

Overall, the meeting was fruitful to discuss the new methods and tools that are going to be developed within WP2 and both internal and external experts judged most methods promising so that stakeholders gave their availability to contribute in the validation step.
Moreover, given the interest raised by the activities of WP2, on request of stakeholders, a midterm and a final focus group meeting will be held to present partial and final results of WP2, allowing also the dissemination of project results.

# Annex 1. Agenda Focus group meeting

**AGENDA - Focus Group Meeting – HOLiFOOD – task 2.1**

**Date :** Tuesday, 9 March 2023, 9:00-15:00 CET
**Venue :** Teams meeting
On-line link: Microsoft Teams meeting. Meeting will be recorded
Join on your computer, mobile app or room device
**Link to the meeting** https://teams.microsoft.com/l/meetup-join/19%3ameeting_NjFmNTcwMmQtNzE0Ny00ZjUxLTk2MDctNGNmOWM4ZWYyZDgz%40thread.v2/0?context=%7b%22Tid%22%3a%2227d137e5-761f-4dc1-af88-d26430abb18f%22%2c%22Oid%22%3a%22d007cc5c-8dbb-4409-bfca-1fb62b5e7f8e%22%7d>
**Meeting ID:** 376 912 344 021
**Passcode:** 4im7Tq

| Time Slot | Session | Leading Partner |
|---|---|---|
| **9:00-9:05** | Agenda | Vincenzina Fusco (CNR) |
| **9:05-9:20** | HOLiFOOD/WP2/Task 2.1 Expert elicitation | Vincenzina Fusco (CNR) |
| **9:20-9:30** | Task 2.2 Untargeted methods for detection of microbiological hazards | Heidy den Besten (WU) |
| **9:30-9:40** | Task 2.3 Untargeted methods for detection of chemical hazards | Marco Blokland (WFSR) |
| **9:40-9:50** | Task 2.4 Comparative genomics and characterization of pathogens | Vincenzina Fusco (CNR) |
| **9:50-10:00** | Task 2.5 RT qPCR for pathogenic bacteria | Vincenzina Fusco (CNR) |
| **10:00-10:10** | Task 2.5 on chip qPCR for pathogenic bacteria | Lex Oosterveld (IMEC) |
| **10:10-10:20** | Task 2.5 Integrity RT-qPCR for viruses | Sandra Martin-Latil (ANSES) |
| **10:20-10:30** | Task 2.5 strip test for in field detection of mycotoxin producing fungi | Annalisa De Girolamo (CNR) |
| **10:30-11:30** | Round table with stakeholders | Chair Vincenzina Fusco (CNR) |
| **11-30-12:30** | Break | |
| **12:30-12:40** | Task 2.6 lateral flow devices for glyphosate in cereals and products of animal origin | Biancamaria Ciasca (CNR) |
| **12:40-12:50** | Task 2.6 aptamer based rapid test for aflatoxins/fumonisins in maize and | Annalisa De Girolamo (CNR) |

| Time Slot | Session | Leading Partner |
|---|---|---|
| | tyramine/histamine in poultry meat | |
| **12:50-13:00** | Task 2.6 SERS coupled to AI to detect simultaneously 5 pesticides and aflatoxin in maize | Natasha Logan (QUB) |
| **13:00-13:10** | Task 2.7 Persistence and adaptation capacity of pathogens in food matrices and processing environments | Vincenzina Fusco (CNR) |
| **13:10-13:20** | Task 2.8 Integration of tools and data developed in WP2 in the knowledge and data exchanging | Badri Nair (CRÈME) |
| **13:20-14:30** | Round table with stakeholders | Chair Vincenzina Fusco (CNR) |
| **14:30-15:00** | Closure of the meeting | Vincenzina Fusco/all |

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