

CA18105



RIBMINS

Risk-based meat inspection and
integrated meat safety assurance

RIBMINS WG2/WG3 Training school: Farm and abattoir interventions in a risk-based meat safety assurance system

Dragan Antic, Diana Meemken, Kurt Houf, Truls Nesbakken | 24-Jun-22 | virtual

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Risk-based meat inspection and
integrated meat safety assurance

RIBMINS WG2/WG3 Training school: Welcome message



WG3 leader:

Dragan Antic

[Univ. of Liverpool | UK]



WG2 leader:

Diana Meemken

[Freie Univ. Berlin | DE]

Welcome to the school

- Main host: **Dragan Antic** drantic@liverpool.ac.uk, in case of technical problems
 - and also IT support: **Ivan Lukić** ivan.lukic@devserbia.com
- Co-hosts: **Diana Meemken, Kurt Houf, Truls Nesbakken**
- Any other COST formalities: **Bojan Blagojevic** blagojevic.bojan@yahoo.com
- All sessions (apart from the workshops) will be recorded
- Please rename your zoom to clearly show your name and surname (right click on your name)
- Please mute yourself and during discussions raise your hand, moderator will give you word; use the chat function too
- Presenters: when playing pre-recorded video, tick “share sound” and “optimise video clip”

Welcome to the school

- Combined WG2 and WG3 effort in farm (pre-harvest) and abattoir (harvest) interventions
- 50 trainees from 25 European countries (+New Zealand)
 - 28 from Academia; 11 Authorities; 4 Industry; 7 National Institutes/Labs
 - 96% vets
- 23 trainers from Academia, Authorities, EFSA and Industry
- 10 workshops on the range of interventions topics

Teachers

- Dragan Antic, University of Liverpool, UK
- Diana Meemken, University of Berlin, Germany
- Kurt Houf, Ghent University, Belgium
- Truls Nesbakken, University of Life Sciences, Norway
- Catherine McCarthy, DEFRA, UK
- Carla Gomes, Animal Health, Ireland
- Maria Rodrigues da Costa, Scotland's Rural College, UK
- Joana Pessoa, Ghent University, Belgium
- Patrik Buholzer, SAFOSO, Switzerland
- Marco De Nardi, SAFOSO, Switzerland
- Sophie Kittler, Univ. of Vet. Med. Hannover, Germany
- Winy Messens, EFSA
- Michaela Hempen, EFSA
- Eystein Skjerve, University of Life Sciences, Norway
- Lis Alban, University of Copenhagen, Denmark
- Sigrun Hauge, Animalia, Norway
- Lian Thomas, University of Liverpool, UK
- Avelino Alvarez-Ordóñez, University of Leon, Spain
- Kristin Ianssen, Farmers union, Norway
- Derk Oorburg, VION, The Netherlands
- Rhea Creve, Ghent University, Belgium
- Mick Bosilevac, USDA, USMARC, USA
- Thiemo Albert, Univ. of Leipzig, Germany

Monday, June 20th

Introduction - foodborne hazards & control measures at farm and at harvest

10:00-10:30	Welcome message - WG3 lead Background RIBMINS and WG3
10:30-11:00	Presentation of students 30 s Name, country, position and Three keywords about your topic
11:00-11:15	Short coffee and biological break
11:15-11:55	EFSA opinions on food/meat safety assurance systems - <i>W</i> questions and discussion (15 min)
11:55-12:35	Interventions in the meat chain planning of interventions - <i>Ey</i> (15 min))
12:35-13:30	Lunch

Perspectives of stakeholders regarding food safety

13:30-14:10	Actual and future challenges in the Netherlands - <i>Ianssen</i> (including questions and discussion)
14:10-14:50	Actual and future challenges in the perspective - <i>Derk Oorburg</i> (including questions and discussion)
14:50-15:30	Actual and future challenges in the up to date on <i>Salmonella</i> control and discussion (15 min))
15:30-16:00	Questions, discussions and closing

Tuesday, June 21st

Separate session on Pre-harvest measures

09:00-09:45	Description of farm intervention discussion (15 min))
09:45-10:30	Systematic literature review on (proven efficacy by Randomised questions and discussion (15 min))
10:30-10:45	Short coffee and biological break
10:45-11:30	Systematic literature review on cattle (proven efficacy by Randomised <i>Costa</i> (including questions and discussion)
11:30-12:15	Pre-harvest food safety interventions (Controlled Trials) - <i>Truls Nesbakken</i>
12:15-13:00	BioCheck - Measuring biosecurity (including questions and discussion)
13:00-14:00	Lunch

Separate session on Meat safety interventions

09:00-09:45	Physical abattoir interventions (including questions and discussion)
09:45-10:15	Chemical abattoir intervention <i>Kurt Houf</i> (including questions and discussion)
10:15-10:30	Short coffee and biological break

10:30-11:15 Results from ongoing WG: *Dragan Antic* (including questions and discussion)

11:15-12:00 Hazard-based thermal and experience - *Mick Bosilew* questions and discussion (15 min))

12:00-12:30 Quantitative MRA models risks for consumer - *Catherine McCarthy* (15 min))

12:30-13:00 Abattoir interventions: no *Braun/Thiemo Albert* (including questions and discussion)

13:00-14:00 Lunch

Separate workshop sessions

14:00-17:00 Participants will be split in groups to work on the case study morning session: a ppt presentation (pre-questions) in a predesigned format. Participants will be allocated to receive material (literature, etc.). They are also encouraged to share their experience on the respect

Farm interventions

Case study 1	Diagnostics, detection of <i>Salmonella</i> methods - <i>Patrik Buholzer</i>
Case study 2	Prudent use of antibiotics
Case study 3	Other pre-harvest interventions (exclusion), phages; vaccination

Case study 4 Pre-harvest interventions in different European countries: *Campylobacter* and *Salmonella* case (role of competent authorities and science) - *Carla Gomes*

Case study 5 Preparation of animals for slaughter: clean animal policies in Europe (farm-to-slaughter stage) - *Sigrun Hauge*

Abattoir interventions

Case study 1	How to design studies to investigate interventions' performance in abattoir - <i>Dragan Antic</i>
Case study 2	Hazard-based vs GHP-based interventions - how to evaluate the interventions' effectiveness against specific hazards - <i>Kurt Houf</i>
Case study 3	Quantitative risk assessment in evaluating the effects of interventions in reducing risks for consumers - <i>Catherine McCarthy</i>
Case study 4	Economic analysis of abattoir interventions for foodborne parasites - <i>Lian Thomas</i>
Case study 5	Chemical interventions - to chlorine or not to chlorine (EFSA opinions) - <i>Avelino Alvarez-Ordóñez</i>

Wednesday, June 22nd

Integrated interventions

09:00-12:40	Presentations 15 min per group + 5 min questions – and a 20-minute break around 10:40
12:40-13:00	Wrap up session: How to proceed in the future
13:00	Farewell - <i>Dragan Antic, Diana Meemken, Kurt Houf, Truls Nesbakken</i>

What is RIBMINS ?

- **risk-based meat inspection** and integrated meat safety assurance
COST-Action 18105
- **aim:**
developing a network to combine and strengthen European-wide
research efforts on modern meat safety control systems
- Mar-19 until Sept-23 ➤ **4 years (+6 months extension)**
- action chair: Bojan Blagojevic [Univ. of Novi Sad | RS]
action vice: Lis Alban [Univ. of Copenhagen | DK
Danish Agric. & Food Council | DK]

Objectives

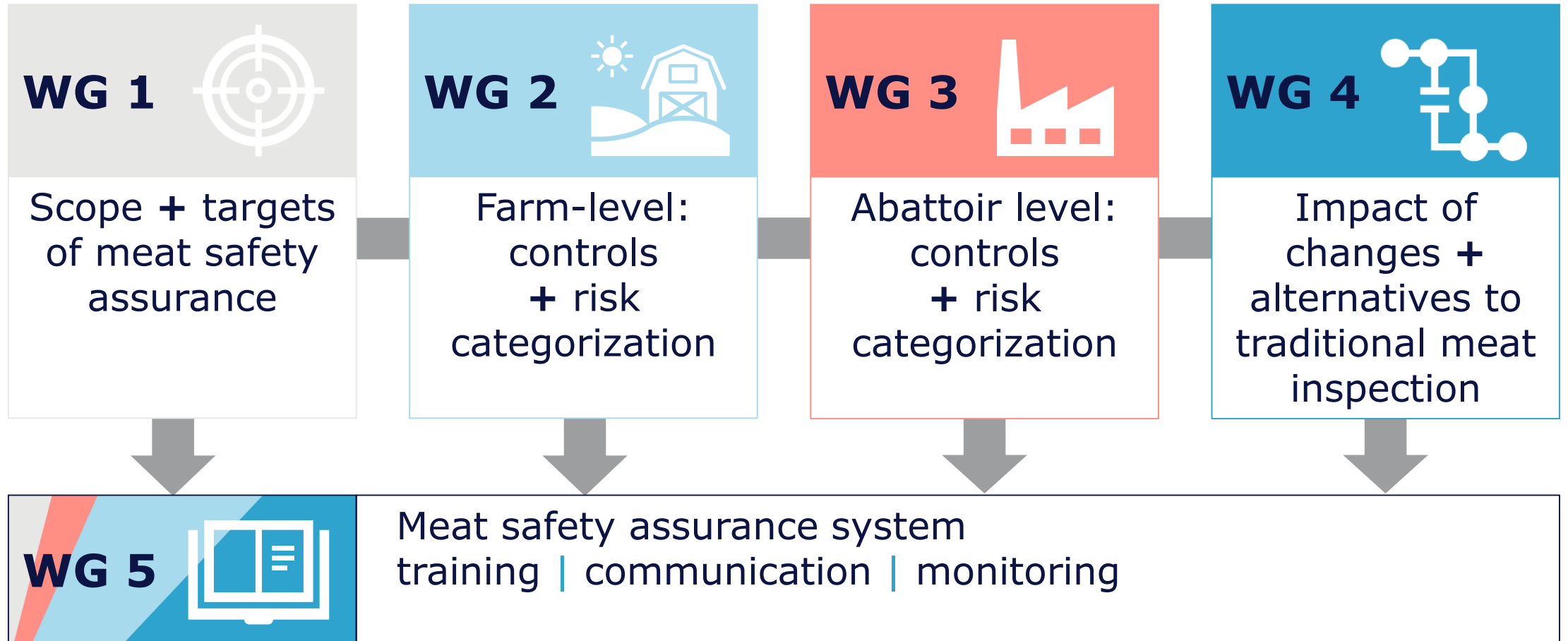
- **coordinate** risk-based meat inspection and meat safety assurance
 - regarding **research**, incl. further joint scientific activities
 - establish effective **links** between scientists | [meat] industry | authorities
 - **exchange** European experiences with overseas countries
 - develop a **training** platform and train participants in the new system
- **capacity building**

General activities

- workshops
- training schools
- RIBMINS scientific conferences
- WG-meetings
- STSM [short term scientific missions]



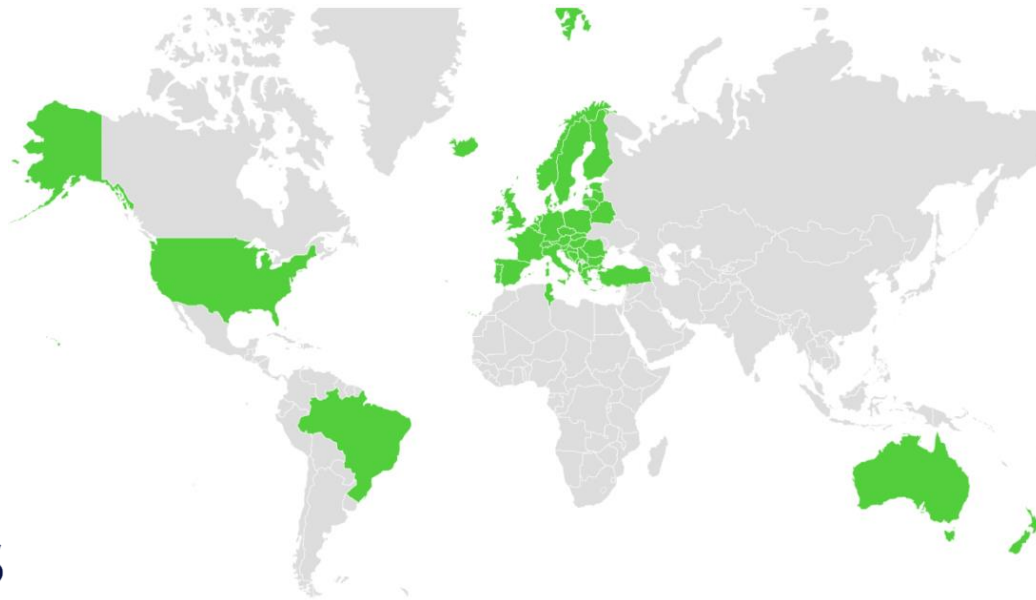
Structure of RIBMINS

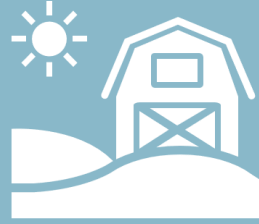


RIBMINS network

- Countries:
 - 35 European countries
 - 4 international partner countries
 - 2 near neighbour countries

Participants:
>230





WG2 Farm-level: controls + risk categorization



leader:

Diana Meemken
[Freie Univ. Berlin | DE]



vice-leader:

Truls Nesbakken
[Norwegian Univ. of Life
Sciences | NO]

Food Chain Information (FCI):

Assessment & Improvements

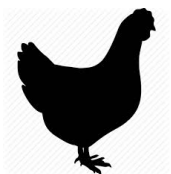
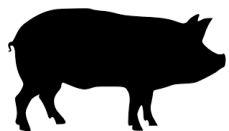
Harmonised Epidemiological Indicators (HEIs):

Risk categorisation of farms

RIBMINS main goal
„MEAT SAFETY“

Pre-harvest Food Safety Interventions:

Assessment of effectiveness



WG2 Status: FCI & HEIs

**Food Chain
Information (FCI):**
Assessment & Improvements

**Harmonised Epidemiological
Indicators (HEIs):**
Risk categorisation of farms



**publications on FCI
in 2022**

**publications on HEIs
in 2023**

WG2 Status pre-harvest food safety interventions

systematic literature reviews

report on pre-harvest meat safety interventions as deliverable in 02/2020 

peer-reviewed publications



Pessoa et al., 2021



Rodrigues da Costa et al., 2021



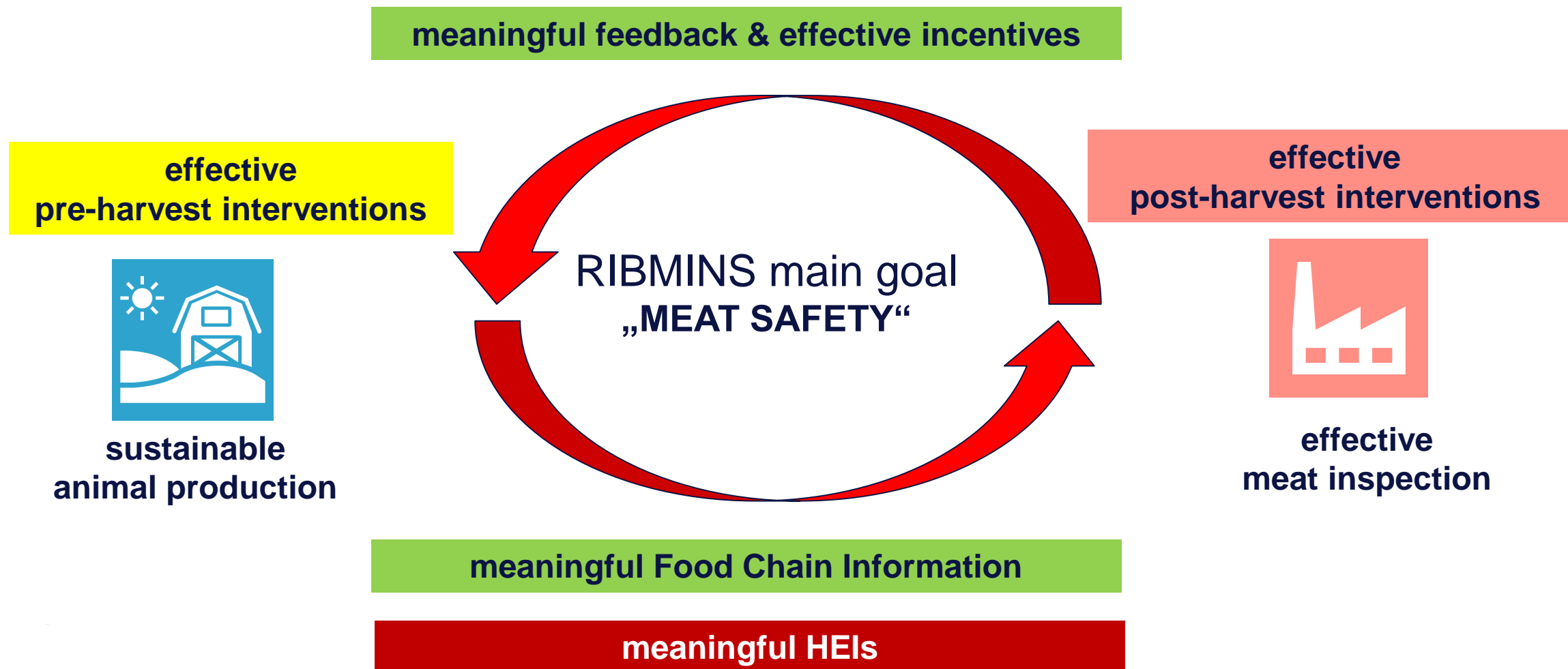
submission in 2022

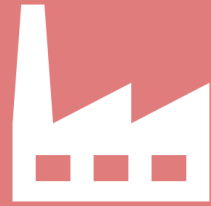
WG2 **Future tasks**

2022
**Online Training School
on pre-harvest meat safety
interventions**

2023
**Training School on
risk categorization of farms**

**Additional publications, presentations and
cooperations with other RIBMINS Working Groups**





WG3 Abattoir level: controls + risk categorization



leader:

Dragan Antic
[Univ. of Liverpool | UK]



vice-leader:

Kurt Houf
[Univ. Gent | BE]

Controls:

- 3.1 Assessment of effectiveness of new tools | methods for detection of carcass contamination
- 3.2 Assessment of the significant intervention strategies and alternative methods for the slaughtering | the carcass dressing

} Years
1 & 2

Risk categorisation:

- 3.3 Assessment of the performance of food safety management systems
- 3.4 Harmonised Epidemiological Indicators in risk categorisation of abattoirs

} Years
3 & 4

WG3 ongoing activities

- performing systematic literature reviews on:
 - interventions for the reduction of bacterial load on pig | beef | sheep | chicken carcasses at abattoirs
 - tools | methods for detection of carcass contamination and pathological lesions – computerised vision systems

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Review

Beef abattoir interventions in a risk-based meat safety assurance system

Dragan Antic^{a,*}, Kurt Houf^b, Eleni Michalopoulou^a, Bojan Blagojevic^c

^a University of Liverpool, Faculty of Health and Life Sciences, Institute of Infection, Veterinary and Ecological Sciences, Leahurst, Neston, CH64 7TE, United Kingdom

^b Ghent University, Faculty of Veterinary Medicine, Department of Veterinary Public Health and Food Safety, Salisburylaan 133, 9620 Merelbeke, Belgium

^c University of Novi Sad, Faculty of Agriculture, Department of Veterinary Medicine, Trg D. Obradovica 8, 21000 Novi Sad, Serbia



Article

Systematic review and meta-analysis of the efficacy of interventions applied during primary processing to reduce microbiological contamination on pig carcasses

Nevijo Zdolec¹, Aurelia Kotsiri², Kurt Houf³, Avelino Alvarez-Ordóñez⁴, Bojan Blagojevic⁵, Nedjeljko Karabasil⁶, Morgane Salines⁷ and Dragan Antic^{2*}

WG3 ongoing activities

- developing a framework for risk categorisation of abattoirs in Europe:
 - Based on the performance of FSMS and
 - Harmonised epidemiological indicators







Risk categorisation of poultry abattoirs on the basis of the current process hygiene criteria and indicator microorganisms

Simo Cegar^a, Ljiljana Kuruca^a, Bojana Vidovic^a, Dragan Antic^b, Sigrun J. Hauge^c, Ole Alvseike^c, Bojan Blagojevic^{a,*}



Article

Prevalence and Persistence of Multidrug-Resistant *Yersinia enterocolitica* 4/O:3 in Tonsils of Slaughter Pigs from Different Housing Systems in Croatia

Nevijo Zdolec^{1,*}, Marta Kiš¹, Dean Jankuloski², Katerina Blagoevska², Snježana Kazazić³, Marina Pavlak¹, Bojan Blagojević⁴, Dragan Antić⁵, Maria Fredriksson-Ahomaa⁶ and Valerij Pažin¹

Thank you for the attention.
Please join us at



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