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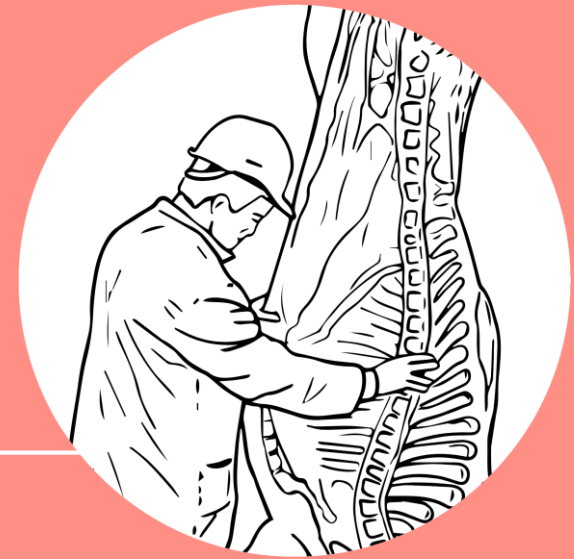
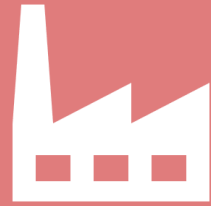


RIBMINS

Risk-based meat inspection and
integrated meat safety assurance

WG 3 - Abattoir level controls and risk categorisation of abattoirs

Dragan Antic | 08. 04. 2022. | RIBMINS conference [Cordoba, Spain]



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

- set-up after kick-off meeting

- training school „farm and abattoir interventions“

- report 2 due

Y I

Y II

Y III

Y IV

- report 1 delivered

Cordoba

- training school „risk categorisation of farms and abattoirs“



meeting in Belgrade [RS] in Jan-20

- working on abattoir interventions reviews
- discussing approaches against carcass contamination

- **The task is finished**
- Literature searched 1990-2021
- ~ 170 articles eligible and characterized
- Data analysis from ~ 60 articles ongoing
- **1 Paper in the progress**
- ‘Vision systems’ identified:
 - Mostly for broiler chicken carcass faecal contamination and gross pathology

Contributors WG3 (5)

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WG3 Task 3.2.1. Systematic review and Meta-analysis **beef** interventions

- **The task is finished**
- Literature searched 1996-2020 (25 years)
- Systematic review and meta-analysis performed
- Work spanned 2019-2021

Contributors (6)

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Review

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

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WG3 Task 3.2.2. Systematic review and Meta-analysis **sheep** interventions

- **The task is ongoing**
- Literature searched 1970-2020
- ~ 80 articles eligible and characterized
- Risk-of-bias assessment ongoing, MA next step

- One paper in progress:

"Cattle hide and sheep fleece cleanliness assessment - systematic review and meta-analysis of its efficacy to reduce microbiological contamination on carcasses"

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WG3 Task 3.2.3. Systematic review and Meta-analysis **pig** interventions

- **The task is finished**
- Literature searched 1990-2021 (>30 years)
- Systematic review and meta-analysis performed
- Work spanned 2019-2021

- One paper **submitted** to journal:
- Nevijo Zdolec, Aurelia Kotsiri, Kurt Houf, Avelino Alvarez-Ordóñez, Bojan Blagojevic, Nedjeljko Karabasil, Morgane Salines, Dragan Antic (2022). Systematic review and meta-analysis of the efficacy of interventions applied during primary processing to reduce microbiological contamination on pig carcasses

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- **The task is ongoing**
- Literature searched 2000-2022
- ~ 240 articles eligible and characterized
- Characterisation ongoing, RoB and MA next step
- Meta-analysis planned

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- 3.1 To determine the performance of the **food safety management systems** in abattoirs
- 3.2 To determine the use of **harmonised epidemiological indicators** in risk categorisations of abattoirs
- 3.3 To organise training school on **interventions**

- Performance of FSMS in abattoirs
 - Work started in November 2021, frequent meetings
 - Task 3.3.1 Define FSMS, identify key elements/parts, identify hazards vs FSMS elements
 - Assess FSMS against specific hazards:
 - Process hygiene assessment
 - Audit reports
 - Questionnaire for CAs' about FSMS
 - Task 3.3.2 Assessment of the individual FSMS element effectiveness against specific hazards
 - Against final outcomes: e.g. *Yersinia*: assess individual FSMS elements against it

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Egon Andoni [AL]

- Risk categorisation of abattoirs based on HEI
 - Work started in November 2021, frequent meetings
- Task 3.4.1 – Assessment of the relevance and applicability of EFSA HEIs and risk categorisation approach for competent authorities:
 - 3.4.1.1 Literature review to explore how HEIs are used in risk categorisation of abattoirs
 - 3.4.1.2 Questionnaire to investigate CAs' approach and situation
- Task 3.4.2 - Propose a practical framework for risk categorisation of abattoirs on the basis of HEIs
 - Case-study on French abattoirs:
 - investigate the slaughter- and abattoir-related parameters that may influence the abattoir hygiene performance and propose a method for scoring this risk

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Luca Grispoldi [IT]

- One paper published, one submitted:
- Nevijo Zdolec, Marta Kiš, Dean Jankuloski, Katerina Blagoevska, Snježana Kazazić, Marina Pavlak, Bojan Blagojevic, Dragan Antic, Maria Fredriksson-Ahomaa, Valerij Pažin (2022). Prevalence and persistence of multidrug-resistant *Yersinia enterocolitica* 4/O:3 in slaughter pigs from different housing systems in Croatia



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

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WG3 Upcoming events – Training school: Farm and abattoir interventions in a risk-based meat safety assurance system: 20-22 June 2022

- 2.5 days, online format, up to 50 participants (from academia, industry and authorities), split in two groups (25 farm, 25 abattoir interventions) + trainers
- Presenters and trainers from RIBMINS network, academia, industry and CAs
- Organisers: Dragan Antic, Diana Meemken, Kurt Houf, Truls Nesbakken
- **Day 1**: Joint work
- Lectures:
 - EFSA opinions on food decontamination and priority hazards for control
 - Interventions in the meat chain. The need to integrate causal inference into planning of interventions
- Perspectives of **stakeholders**
 - Actual and future challenges and needs from the **farm level** perspective
 - Actual and future challenges and needs from the **abattoir level** perspective
 - Actual and future challenges and needs from the **national** perspective. Progress up to date on *Salmonella* controls in the EU

WG3

Upcoming events – Training school: Farm and abattoir interventions in a risk-based meat safety assurance system: 20-22 June 2022

- **Day 2: Separate pre-harvest (farm) interventions:**
- Lectures:
 - **Descriptions** of pre-harvest interventions
 - **Systematic** literature **review** on pre-harvest food safety interventions for broiler, pigs and cattle (proven **efficacy** by RCTs)
 - Pre-harvest food safety interventions (proven **efficacy** apart from RCTs)
 - BioCheck - Measuring **biosecurity** as tool for zoonoses control
- Workshops: 5 case studies (separate small groups of 5)
 - Case study 1 - **Diagnostics** on the farm, serology vs microbiology/swabs
 - Case study 2 - Prudent use of **antibiotics**
 - Case study 3 - **Diet manipulation**, probiotics, competitive exclusion, phages, vaccines
 - Case study 4 - Pre-harvest interventions in different European countries: role of **FSA/CA** and **science**
 - Case study 5 - Preparation of animals for slaughter, **skin cleanliness**, effect on process hygiene (farm-to-slaughter stage)

WG3

Upcoming events – Training school: Farm and abattoir interventions in a risk-based meat safety assurance system: 20-22 June 2022

- **Day 2: Separate harvest (abattoir) interventions:**
- Lectures:
 - **Physical** interventions (lairage, GHP, thermal treatments)
 - **Chemical** interventions and **microbiological validation** of interventions
 - Results from **ongoing WG3 work** (interventions in beef, pigs, sheep, poultry)
 - Hazard-based thermal and chemical interventions for beef and pigs - **USA experience**
 - **Quantitative MRA models** for evaluating the effects of interventions in reducing risks for consumer
 - Abattoir interventions: novel treatments and **non-thermal** technologies
- Workshops: 5 case studies (separate small groups of 5)
 - Case study 1 - **Study design** to investigate interventions' performance in abattoir
 - Case study 2 - **Evaluation** of interventions' effectiveness against specific hazards
 - Case study 3 - **Quantitative risk assessment** in evaluating the effects of interventions in reducing risks for consumers
 - Case study 4 - **Cost-benefit analysis** of using abattoir interventions
 - Case study 5 - **Chemical interventions** - to chlorine or not to chlorine

WG3

Upcoming events – Training school: Farm and abattoir interventions in a risk-based meat safety assurance system: 20-22 June 2022

- **Day 3:** Joint work - **Presentations** 15 min per group + 5 min questions
- Wrap up session: How to proceed in the future
- The call will be open shortly after Cordoba !
- Similar application process as last year for WG4 training school
- Save the dates: 20-22. June



Thank you for the attention.
Please join us at



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