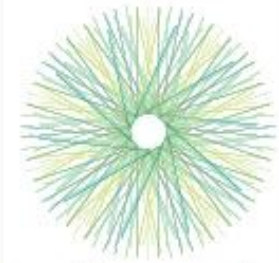
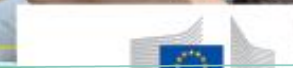
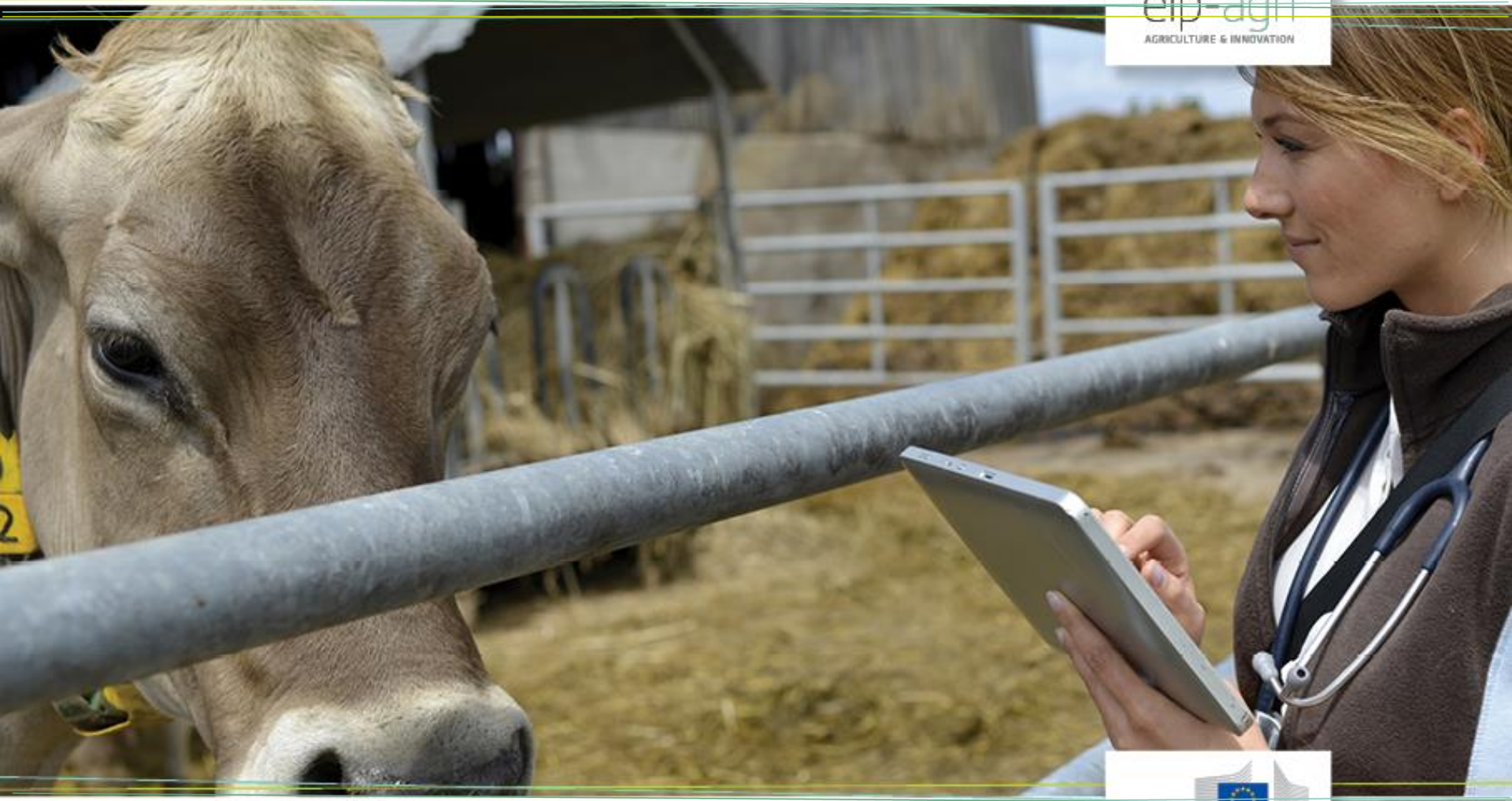


EIP-AGRI Workshop 'Biosecurity at farm level: challenges for innovation'

22-23 January 2015 – Brussels, Belgium



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The EIP-AGRI in short

- *The Europe 2020 **Flagship Initiative "Innovation Union"** specifies European Innovation Partnerships (EIP) as a new tool for fostering innovation through linking existing policies and instruments*
- *Overarching concept – funding in CAP-RD and H2020 Research funds, et al*
- *Based **on interactive innovation model** linking up multiple actors for creation and diffusion of knowledge.*
- *Key entities: **Operational Groups***
- *EU wide EIP network: communication, partnering, dissemination, knowledge flows and collecting practice needs*

The interactive model

- *The EIP adheres to the "interactive innovation model" which focuses on forming demand-driven partnerships - using bottom-up approaches and linking farmers, advisors, researchers, businesses, and other actors to implement concrete innovation projects in **Operational Groups**.*
- *Knowledge "exchange" between partners generates new insights and ideas and integrates existing tacit knowledge. The more focused solutions are quicker put into practice thanks to the co-ownership generated during projects.*

European Innovation Partnership and Horizon 2020

Rural Development

- **Setting up "operational groups"** involving farmers, advisor, agribusiness, research, and NGOs to work on innovation projects
- **Project funding** for activities of operational groups, possibly combined with other measures (investment, knowledge transfer, advisory services)
- Supporting **innovation support services**

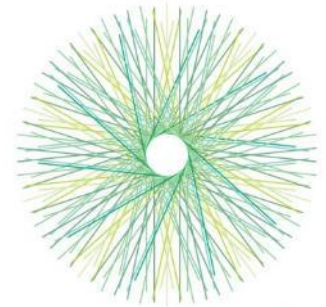


Horizon 2020

- Research projects, including on-farm experiments to provide the knowledge base for innovative actions
- Interactive innovation formats such as **multi-actor projects** and
- and **thematic networks**

Focus Groups

Objectives of the workshop:

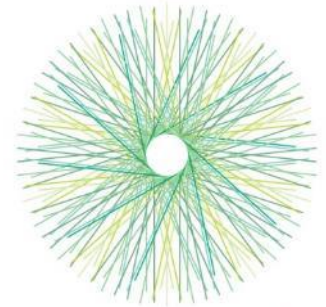


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To contribute to innovation in on-farm biosecurity within production systems related to poultry, ruminants and pigs. Main questions in the workshop:

- What are the **key elements and measures** for on-farm biosecurity?
- What are the **motivators and obstacles** to the implementation of biosecurity measures?
- Which biosecurity measures require **additional knowledge exchange and demonstration** to be implemented?
- Which elements of on-farm biosecurity require **additional experimentation and research**?

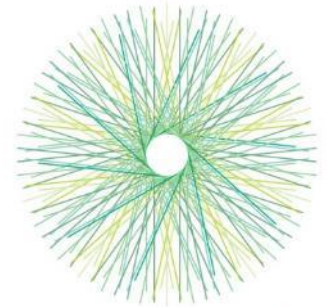
Participants



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Steps before the workshop



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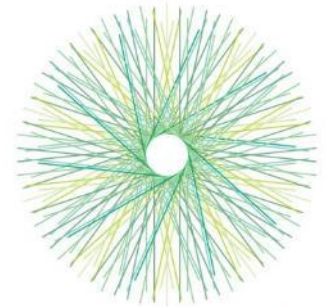
1. Questionnaires to participants asking for opinions on 21 measures (range 1 – 5):

- What is the level of **application** in your country?
- What is the expected **efficacy** in disease prevention?
- What is the expected **feasibility** of implementation?
- What is the expected **return on investment**?

2. In total 60 responses

3. Analysis

Steps during the workshop



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Setting the stage: Biosecurity in animal farming – Jeroen Dewulf, Ghent Univ.

Breakout sessions per sector:

- Discussing the questionnaire survey
- Which measures are missing?
- What are drivers / obstacles for implementation?

Cost and benefits of biosecurity measures – George Gunn, SRUC

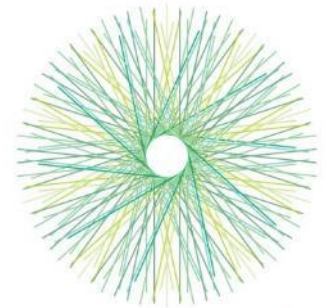
Examples of joint initiatives (e.g. Bovine Tuberculosis in France by FESASS)

Breakout sessions (sectors mixed):

- What are efficient ways to stimulate implementation?
- Which aspects require additional knowledge exchange / demonstration
- Which aspects require additional research and experimentation?

Presentation on EIP-AGRI and Horizon 2020 and conclusions

Key issues and principles of biosecurity



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What is biosecurity ?

The combination of all measures taken
to reduce the risk of
introduction and **spread**
of diseases on herd, region, country,... level

CURATIVE → PREVENTIVE veterinary medicine

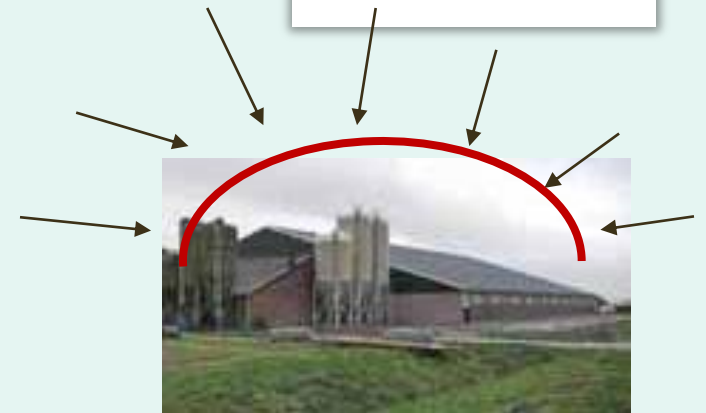
Key issues and principles of biosecurity



EXTERNAL BIOSECURITY

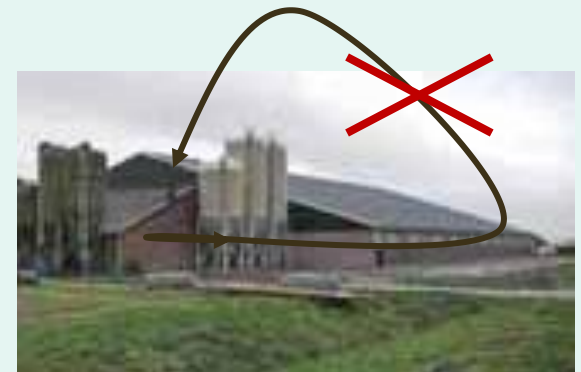
= Reduce introduction

- endemic diseases
- "exotic" diseases

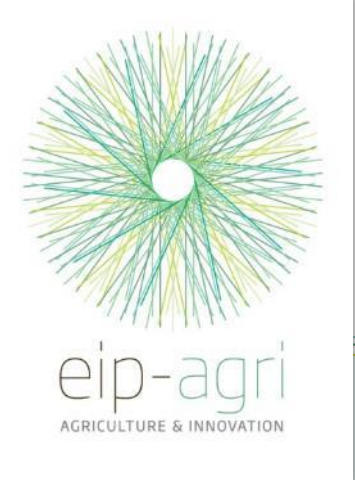


INTERNAL BIOSECURITY

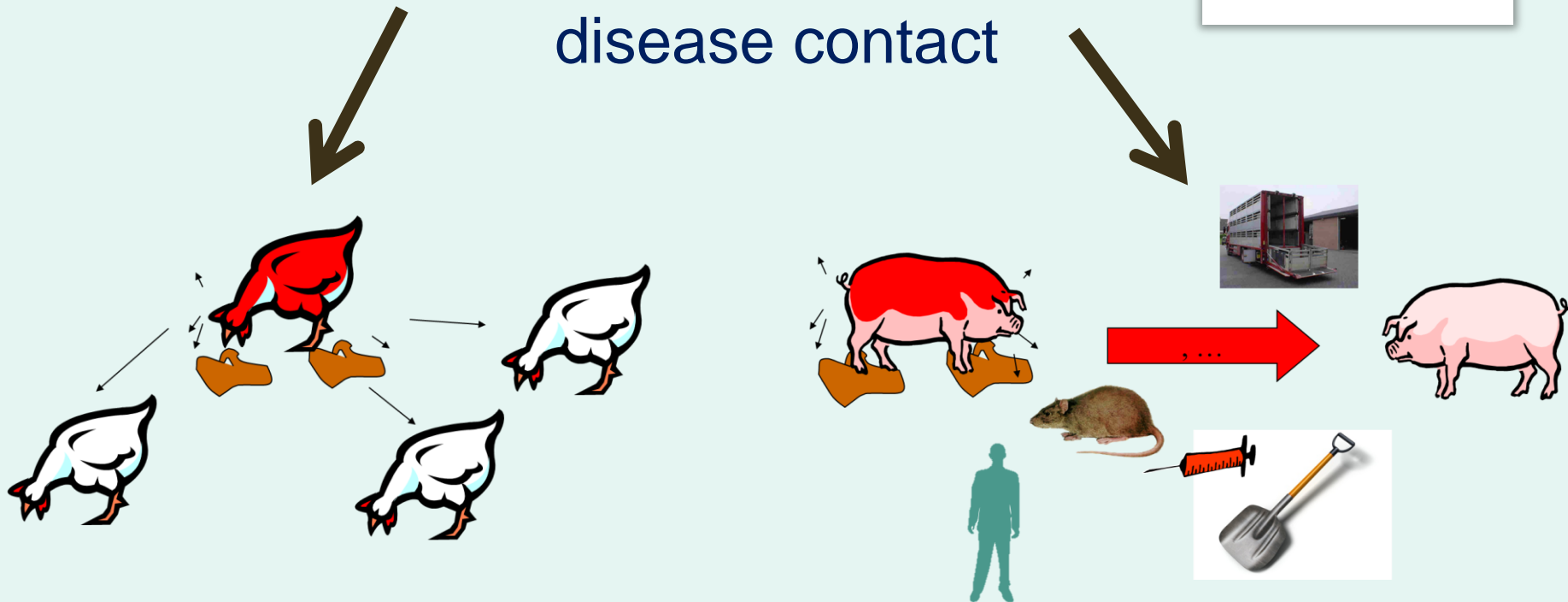
= Reduce spread



Key issues and principles of biosecurity

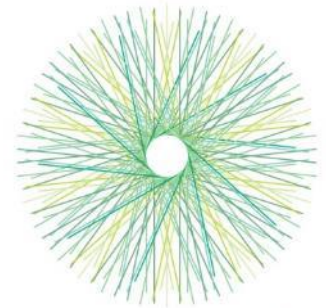


DIRECT and INDIRECT disease contact



Reduction of the general infection pressure

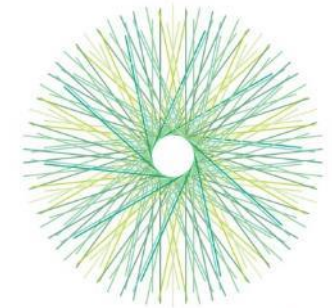
Key issues and principles of biosecurity



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- Based on **knowledge** of
 - disease transmission
 - survival of sources of infection
- General and **species** specific
- General and **disease** specific
 - Pulmonary diseases versus enteric diseases
 - Multifactorial diseases (PRRS & influenza, PMWS, PIA,...)

Key issues and principles of biosecurity



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External Biosecurity:

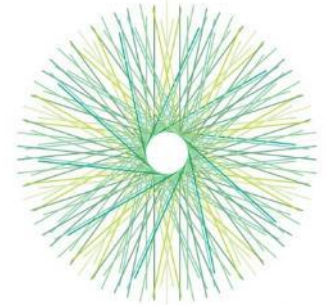
Purchase of animals and sperm



Key issues and principles of biosecurity

External Biosecurity:

Entrance control



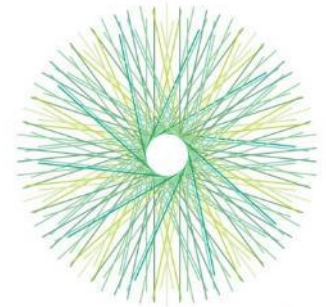
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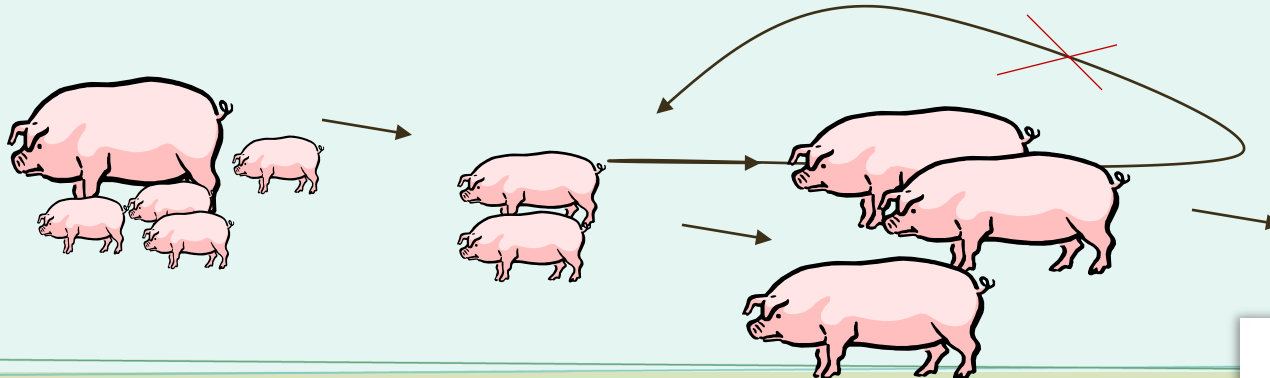
Key issues and principles of biosecurity

Internal Biosecurity:

Separate age groups



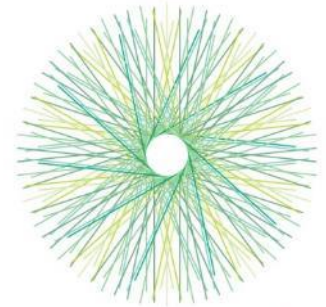
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Key issues and principles of biosecurity

Internal Biosecurity:

Pets & vermin

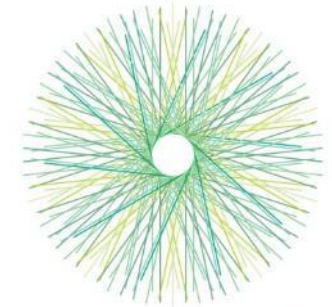


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Outcome of the questionnaire survey

Who responded?



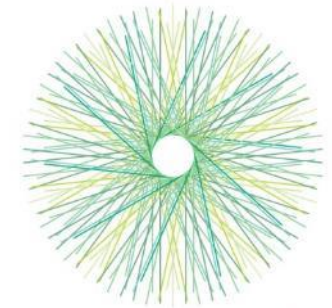
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	Pig	Cattle	Poultry
Austria	2	0	0
Belgium	2	1	1
Czech Republic	0	0	1
Denmark	1	1	1
Estonia	2	0	0
Finland	1	0	0
France	3	0	0
Germany	3	0	0
Hungary	0	0	1
Ireland	1	4	0
Italy	1	1	0

	Pig	Cattle	Poultry
Lithuania	0	2	0
Luxemburg	0	1	0
Netherlands	2	0	0
Poland	1	1	1
Portugal	1	0	1
Romania	0	0	2
Slovakia	1	1	1
Slovenia	1	1	0
Spain	2	3	0
Sweden	0	2	0
UK	2	2	4
Total	26	20	13

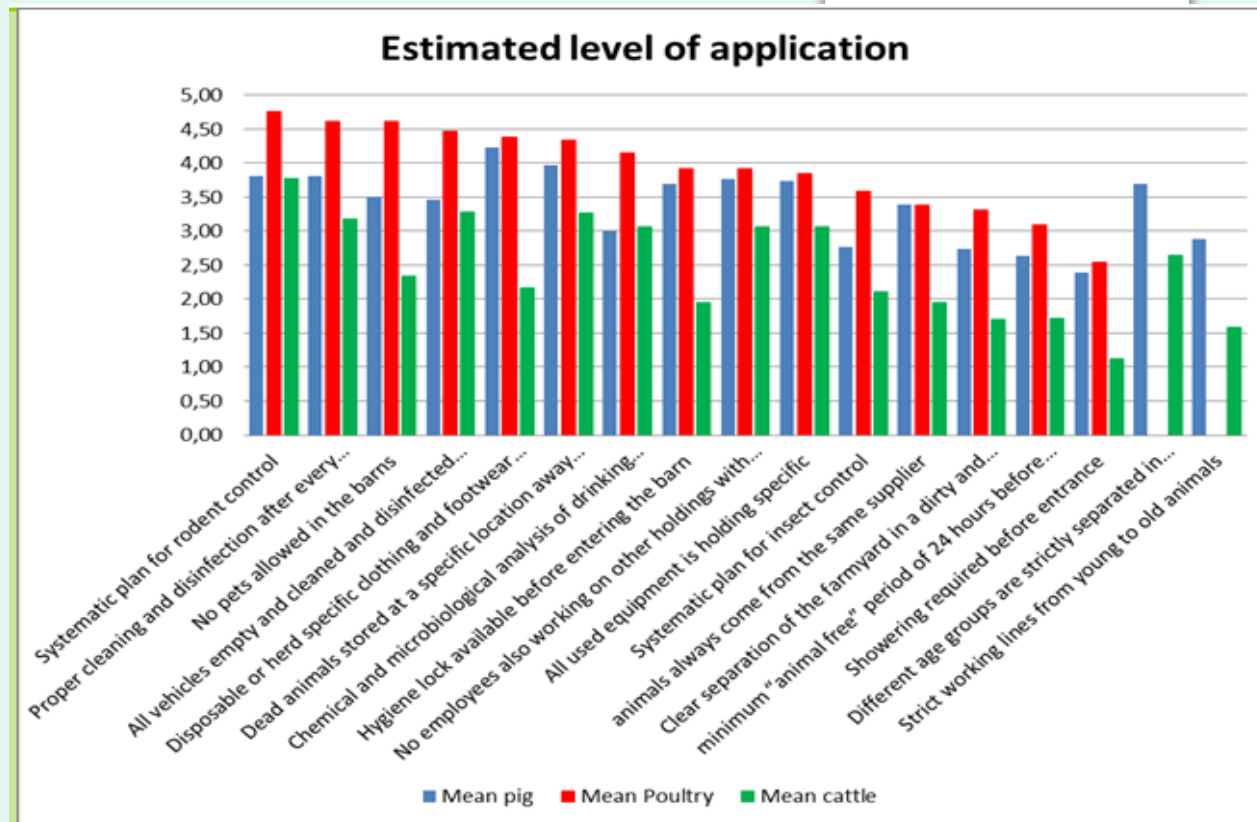
Outcome of the questionnaire survey

In total, 60 reactions were received. Although the samples for each sector are relatively small, some conclusions can be drawn:

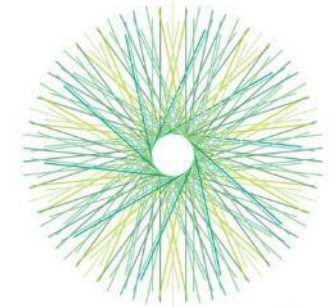


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As the figure shows, there are quite some differences between the sectors. In general, lower estimated levels of application are shown in the cattle sector, compared to the pig and poultry sectors. It should be kept in mind that the variety in answers may also be due to country differences.



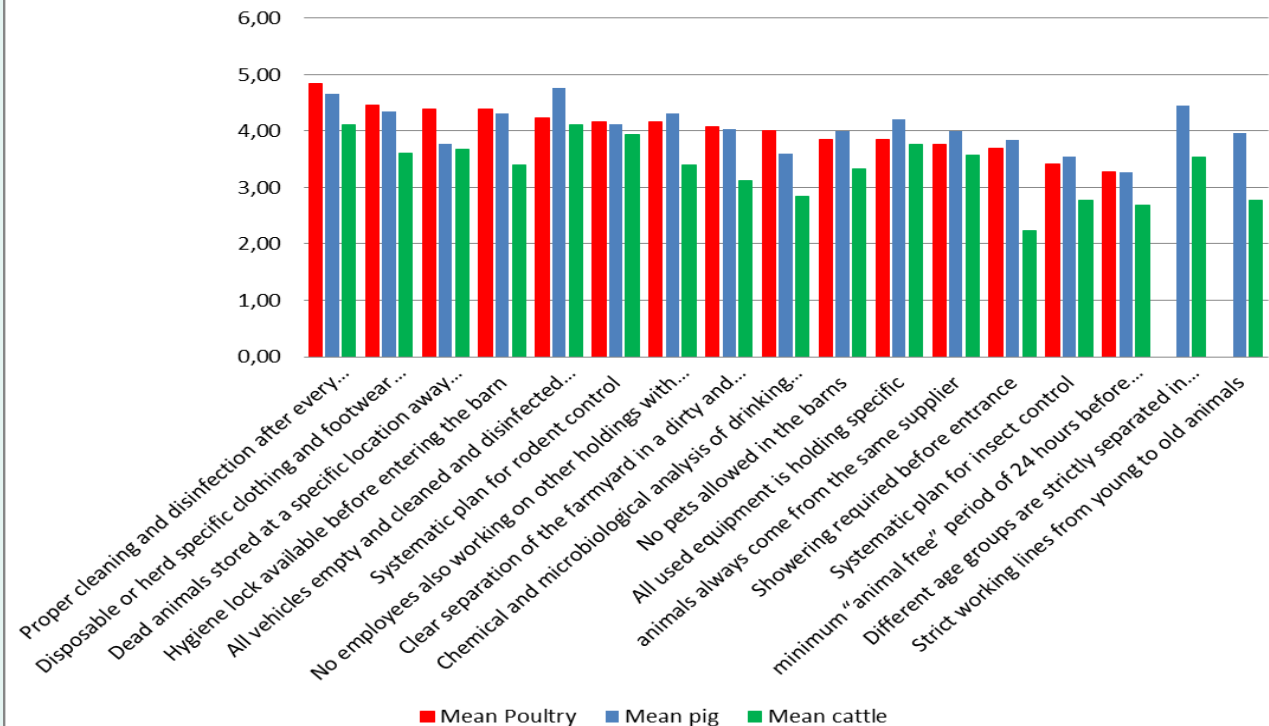
Outcome of the questionnaire survey



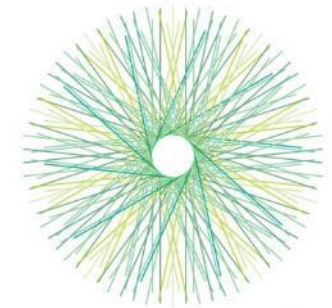
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In contrast to the expected level of application, differences between the sectors are not that large. This leads to the conclusion that the importance and efficacy of the measures is believed to be relatively species-independent.

Estimated level of efficacy

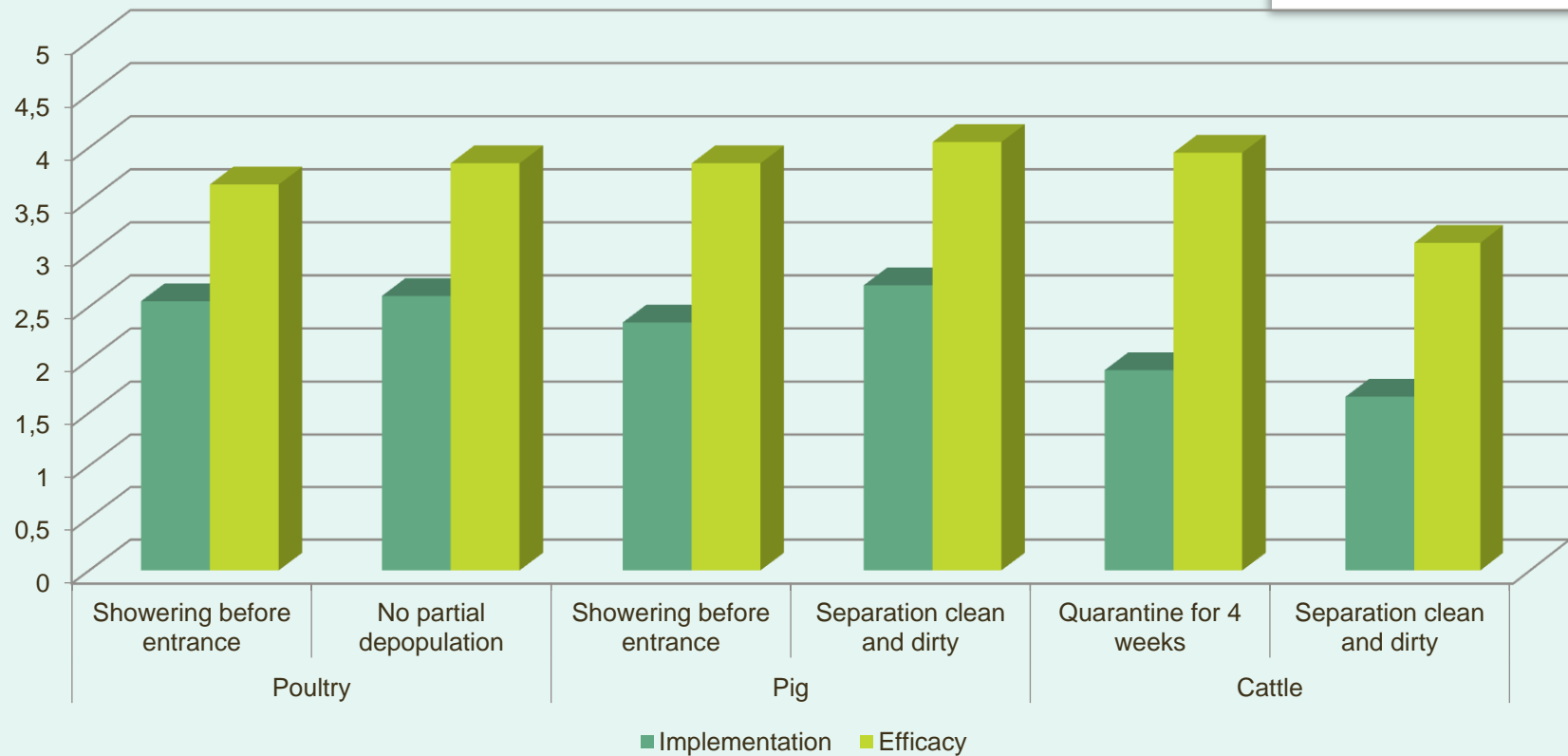


Outcome of the questionnaire survey

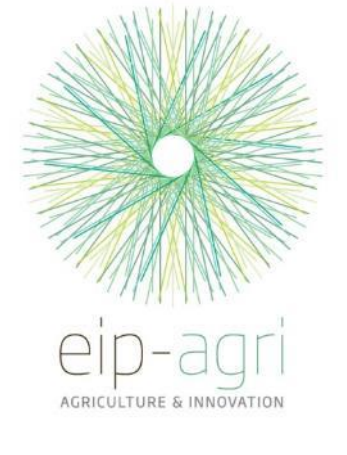


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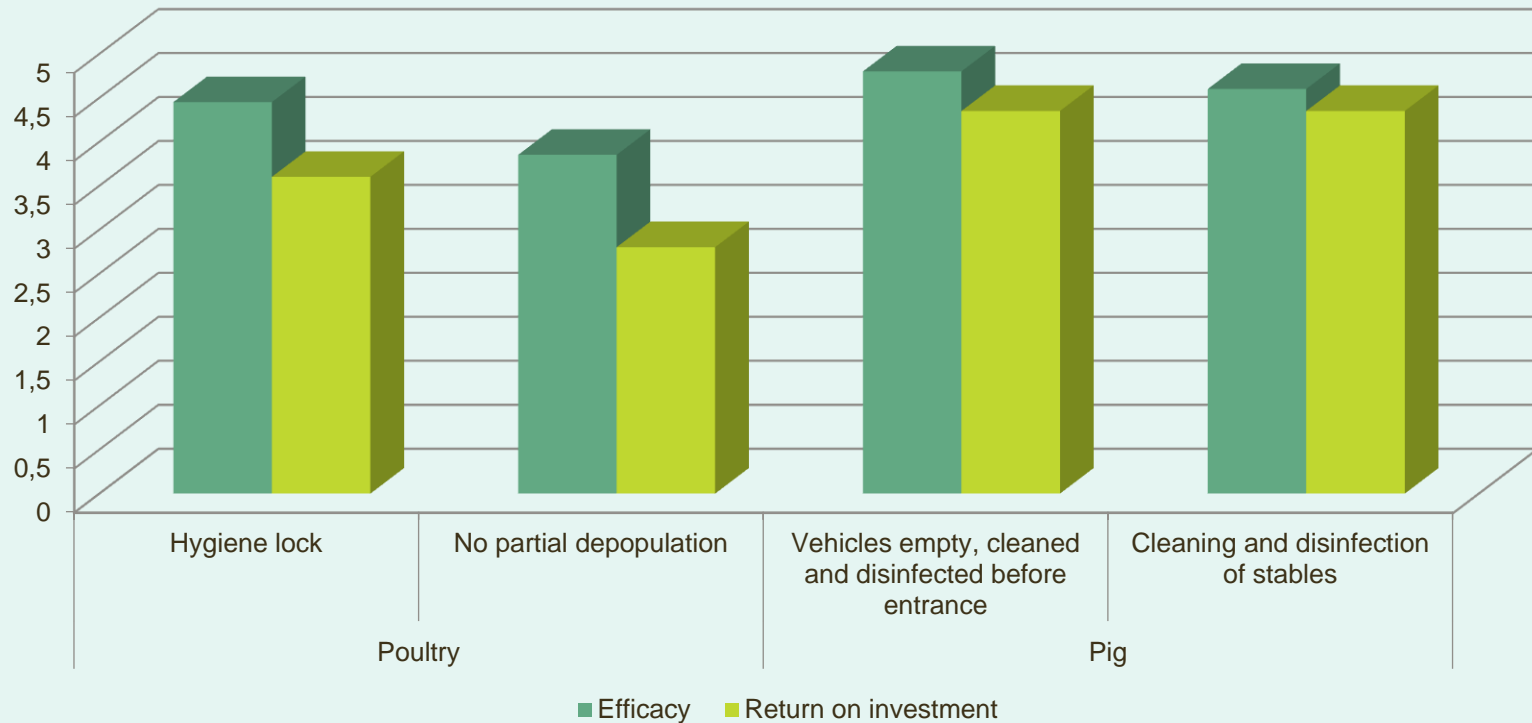
Implementation versus efficacy



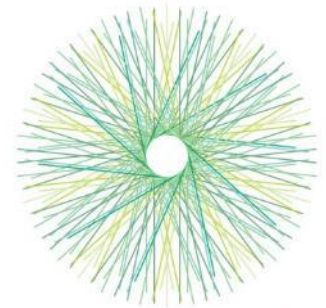
Outcome of the questionnaire survey



Efficacy versus return on investment



Outcome of the workshop: Drivers and obstacles for biosecurity



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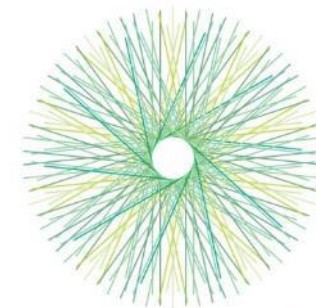
Drivers: five main areas were addressed in all sectors.

- (1) economic aspects
- (2) legislation
- (3) collective initiatives (assurance, control programmes)
- (4) values and awareness and,
- (5) advice and training.

Obstacles: four blocks in all sectors

- (1) economic aspects related to different dimensions of cost-benefit functions,
- (2) unclear or incoherent institutional set-up,
- (3) gaps in knowledge and communication on biosecurity linked to path dependency in the sectors and,
- (4) some obstacles linked to the inherent needs of production systems (including structures and facilities).

Outcome of the workshop: Actions to increase level of implementation



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Overcoming obstacles: increasing implementation	Group 1	Group 2	Group 3
Explanation cost-benefit	X		
Benefits: cost-benefit analysis			X
Lower costs / higher income	X		
Training / education / repetition	X		
Benchmarking	X		
Anonymous scoring system		X	
Stakeholder meeting (open minds, common sense, champion farmer)		X	
Action plans	X		
Adopting core biosecurity on farm (e.g. implementation)			X
Translate science to economical / practical		X	
Risk communication	X		
Communication			X

Outcome of the workshop: Topics for knowledge exchange



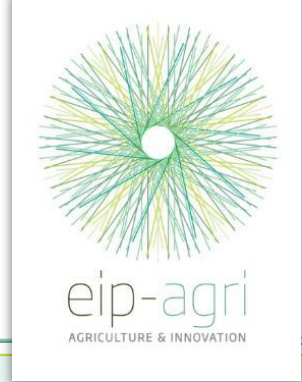
The most frequent aspects and needs identified by the participants were:

- ▶ **Cost/benefit ratio analysis and data** on biosecurity measures, preferably based on regional data
- ▶ **Social aspects** including coaching, motivating and effective communication (both peer-to-peer systems of exchange and official supporting material)
- ▶ **Best practices** on operational procedures, hygiene standards and monitoring of the biosecurity status
- ▶ **Evaluation methods** for quick assessment of biosecurity levels and for identifying technical improvements
- ▶ **Disease transmission routes** in relation to effective measures
- ▶ **Legislation and complying** with regulations and standards
- ▶ **Biosecurity throughout the chain**, for instance who is the main responsible person in what part of the chain

(part of these might be addressed through e.g. EIP operational groups)

Outcome of the workshop

Identified research needs



The most frequent research needs identified by the participants are about **behavioural aspects** focusing on the different actors like farmers, but also veterinarians, consumers and citizens. The main question is how to motivate and influence behaviour.

Other aspects highlighted:

Comparing different biosecurity schemes at different levels

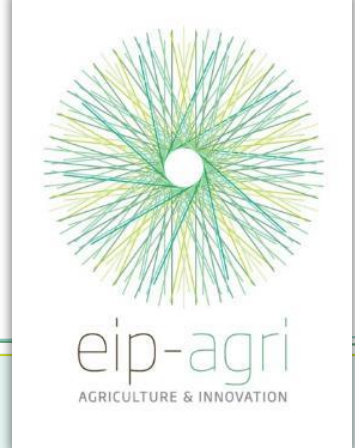
- ▶ Designing **real-life farms**, taking into account sustainability, for instance striking the right balance between being protected and keeping a positive image for the general public (to avoid that farms look like prisons)
- ▶ **Costs and benefits** of biosecurity, **indicators** and ways of measuring success
- ▶ Effective ways to balance biosecurity with **wildlife** control
- ▶ Ways and measures to effectively **transfer knowledge** on biosecurity
- ▶ **Precision livestock farming** (for instance remote sensing)

In general, the workshop did **not offer enough time to get a full overview**. Further identifying the gaps and research needs should be a topic for further research as well.

(part of these might be addressed through e.g. Horizon 2020)

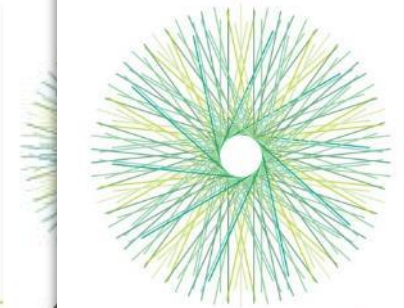


General conclusions of the workshop



- **little doubt about the importance** of biosecurity in animal production
- **large variety in application of different biosecurity measures** between countries and between animal sectors with the broilers sector being the sector where biosecurity measures appear to be implemented already most followed by the pig production sector and the bovine sector
- **less variety** between the animal sectors **in believed efficacy** of the different measures
- general believe that a lack of application of measures is due to a **lack of information and/or motivation** among the farmers
- this lack should be addressed to improve biosecurity. **Collective initiatives** could be beneficial for motivating each other
- several knowledge gaps were identified linked to the need of **quantitative evaluation of the efficacy and economical value** of the different biosecurity measures. This info is of crucial importance for motivating all stakeholders involved to apply more and better biosecurity measures.

Thank you for your attention!



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EIP-AGRI website:

www.eip-agri.eu

Register!

Biosecurity workshop:

<http://ec.europa.eu/eip/agriculture/content/interactive-workshop-biosecurity-eu>

Focus Group on how to reduce the use of antibiotics in pig farming

<https://ec.europa.eu/eip/agriculture/en/content/animal-husbandry>

