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AGRICULTURE & INNOVATION

Reducing antimicrobial use in poultry farming

How to reduce the use of antimicrobial treatments in poultry in order to fight the spread of antimicrobial resistance?

Poultry is probably the livestock sector where more progress has been made towards a rational use of antimicrobials and a reduction of antimicrobial resistance. One of the main tasks of the 20 experts of the Focus Group on "Reducing antimicrobial use in poultry farming" was to identify and assess the effectiveness of good practices in poultry production, especially for broilers and laying hens, that have been applied so far.

The experts divided these good practices into three groups:

- ▶ Disease treatment, diagnostics and decision making
- ▶ Prevention at production chain level
- ▶ Prevention at farm level

The most relevant practices were analysed in depth for success factors and barriers, from a technical, social, and economic point of view. Several strategies, such as biosecurity measures, vaccination programmes, bird management, data-driven decision making, and where necessary diagnostics and treatment, were identified as effective to reduce the use of antimicrobials and the risk of development of antimicrobial resistance. However, many of these strategies share the same barriers, including cost of implementation, lack of tools and technical knowledge, or a lack of coordination and collaboration between stakeholders. There is probably no single good practice that can be recommended as fully effective. Experts pointed out the need for a combination of approaches to reduce the use of antimicrobial treatments.

"Proper biosecurity is a key factor to improve the sanitary status of farms, and as a consequence, reduce the need to use antimicrobials."

- Marta Cerdà-Cuéllar (Spain), expert from the
EIP-AGRI Focus Group "Reducing antimicrobial use in poultry farming" -

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Ideas for Operational Groups

- ▶ OGs bringing together industry and farmers, to exchange knowledge and carry out field trials to learn more about the advantages and disadvantages of different practices, such as on-farm hatching, early feeding, and the effects of hatching on early life.
- ▶ Manure disposal can cause antimicrobial resistance: when manure contains resistant bacteria, spreading it can cause cross-contamination, also in nearby fields. An OG could develop systems to dry manure (drying and sterilising infrastructure) by pelleting, and allow it to be sold as an added value product. The product could also be used to heat the barns in winter making use of pellet burners.
- ▶ Regional OGs acting as local education and knowledge transfer platforms. One of the aspects to develop at local level would be the efficacy of alternative approaches to reduce antimicrobial use.
- ▶ OGs working on quality assurance of the safety and efficacy of feed additives at farm level

Research needs

- ▶ **Biosecurity.** The real impact of different biosecurity measures on disease incidence needs to be quantified and studied in different systems, including those with outdoor access, including social aspects of biosecurity (best ways to change attitudes).
- ▶ **Diagnostics.** On-farm testing and monitoring tools are urgently needed to be able to decide if an antimicrobial treatment is needed and if so, which one in particular.
- ▶ **Vaccines.** improvement of existing vaccines; development of vaccines for bacterial diseases and for minor species; trials on the efficacy of autogenous vaccines.
- ▶ **Precision livestock farming.** There is a need to develop automatic individual health status monitoring systems Poultry flocks are always seen as a unit, not as individual animals. In some cases, individual monitoring could help to reduce treatment or to apply it earlier.
- ▶ **Data capture and sharing.** Harmonised data collection and sharing systems are needed to have data available, for example on antimicrobial use, slow-growing genetic lines, disease epidemiology or variability on the effects of good practice between countries.
- ▶ **Nutrition and feeding.** The mode of action and efficacy of feed and water additives needs further research and standardisation. Clarity on claims and review of registry criteria are needed.

More ideas for Operational Groups and research needs available in the Focus Group report

More information on the EIP-AGRI website

Focus Group webpage	EIP-AGRI workshop: Interactive workshop on biosecurity in the EU	Inspirational ideas: <ul style="list-style-type: none">• A network to improve health management in pigs• Fit for pigs - animal welfare app• Automatic cleaning for pigs• Sustainable egg production
Focus Group report	EIP-AGRI video: <u>AGRI challenge: Reducing antimicrobial use in poultry farming</u> Press article: <u>On-farm hatching improves welfare and health of broiler chicks</u>	

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