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Healthy Livestock

PREVENTION IS BETTER THAN CURE

WPI Biosecurity / Poultry / BEAT and Risk Mitigation Measures



HEALTHY LIVESTOCK

Using antimicrobials in animals contributes to the rise and spread of antimicrobial resistance. By doing so it reduces the availability of safe and effective medicines against infectious diseases for both humans and animals. HealthyLivestock is a research project aiming to find ways to reduce the use of antimicrobials and the emergence of antimicrobial resistance in livestock by improving the health and welfare of the animals.



BIOSECURITY

“Biosecurity is the prevention of disease-causing agents entering or leaving any place where they can pose a risk to farm animals, other animals, humans, or the safety and quality of a food product”.

Good biosecurity should be practiced at all times, not just during a disease outbreak. Taking the right measures already before or in the early stages of a disease outbreak can help prevent or reduce its spread.

PREVENTION AS THE FIRST STEP

The improvement of Biosecurity by using good biosecurity measures in poultry farms will reduce the risk of the introduction and spread of micro-organisms, in particular, pathogenic micro-organisms that cause animal diseases, therefore it will enhance the protection of animal health.



HEALTHYLIVESTOCK BEAT BIOSECURITY ANALYSIS TOOL IS BUILT:

- To “Assess systematically disease risks related to housing and management in broiler farms.
- To define farm tailor-made health plans including biosecurity protocols and adapted to the farm-specific risks.
- To monitor the risk mitigation by means of biomarkers”.

BioSecurity Assessment Tool (BEAT) was developed to identify strengths and weaknesses in biosecurity on broiler farms, which was used as a starting point to formulate tailor-made health plans to improve broiler health and reduce antimicrobial use.

HealthyLivestock project developed two BioSecurity risk Analysis Tools (BEATs), for pigs and broiler farms, using a Microsoft Excel format for easy comparison. The biomarkers that were used comprised direct and indirect signs of infectious diseases, such as clinical symptoms and results of lab analysis for bacteriology, virology, serology and the presence of stress indicators.

The BEAT is based on two earlier developed conceptual approaches: the one of Biocheck.Ugent and the FAO 3 zone-biosecurity model. Biocheck.Ugent focuses on the risks of pathogens entering or escaping from the farm (external biosecurity) and their spread over the farm (internal biosecurity).

The FAO 3zone-biosecurity identifies 3 different zones on and around the farm (i.e. outside the farm, working zone, animal houses) and their 2 interfaces.

HL Biosecurity Risk Analysis Tool for poultry farms [Link](#).



RESULTS

- BioSecurity Analysis Tool (BEAT) was found effective to identify biosecurity strengths and weaknesses of broilers farms
- Improved biosecurity results in a reduction of the introduction of pathogens and thus, less disease, which is favorable for the health status of the animals.
- A reduction in antimicrobial use is reported for broiler farms with higher use of such antimicrobials
- Biosecurity showed a positive correlation with the production results (such as daily growth and improved performance) and the improvement of the profitability of the farm therefore will limit the risk of farm economic losses
- The reduction of the use of antimicrobials will reduce antimicrobial resistance which is profitable both for animal health and human health
- Improving the broiler’s health by using the BEAT tool will reduce mortality and reduce treatment costs
- The footpad lesions improved after using the tool
- It will help on maintaining poultry healthy, which ensures a part of animal welfare which is one of the consumer concerns
 - HealthyLivestock Economic analysis found that implementation of biosecurity measures is able to reduce the number of AM treatments and the costs of Antimicrobials use
 - HealthyLivestock investigating the tool social acceptance of the tool, found that more than 84% of 600 farmers highly ranked the biosecurity measures to reduce AMU.





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HOW DOES THE BEAT TOOL WORK?

Better managing biosecurity issues with appropriate tools will keep infection pressure at the farm as low as possible, and the immune system of the animal will be less stressed, resulting in a lower risk of a disease outbreak and, consequently, better animal health and welfare. Implementation of this way of assessing biosecurity with the veterinarian on a yearly basis would improve biosecurity status and result in further AMU reduction and improvement of welfare and production.

- Define on-farm risk zones: Make a schematic drawing of the farm location and color the risk zones, and identify the buildings, stables, storage sites, pathways et cetera.
- Go through the risk analysis tool: Answer the questions belonging to the different zones and transition lines between zones
- Interpretation: Analyze together with your farm veterinarian and discuss the opportunities for improvement
- Health plan: Make an action plan with SMART-formulated preventative actions per zone and per transition line between zones: Based on the results of the risk analysis tool, tailor-made on-farm health plans can be set up with your farm veterinarian proposing solutions to strengthen biosecurity



If you want to know more about this topic **visit**
<https://shorturl.at/aPRU4> or **scan** this QR code
BEAT tool: <https://shorturl.at/azR35>

Better health and welfare of the animals



Less sick animals



Less need to treat animals



Reduced use of Antimicrobials



Reduced risk for Antimicrobial Resistance



More profitable farms



Happy farmers, happy animals, happy veterinarians, happy planet!



The EU part of the HealthyLivestock project is funded by the EU Horizon 2020 research and innovation program under grant agreement number 773436