Integrating bacteriological milk examination into decision support for reduced use of antimicrobials

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OBJECTIVES

• Standardise protocols for bacteriological milk analyses and harmonise documentation of findings
  • Standardise use of antimicrobial treatments in regard to animal and diagnoses
  • Assess the impact of farm specific management and environmental factors, using existing health and production data and develop targeted dry off-strategy (decision support tool) to reduce use of antibiotics

DATA

• Observational study in 249 dairy herds (6475 cow-yrs) in Austria.
• Analysis of antimicrobial treatments, information on various risk factors.
• Standardised treatment data provided by 17 different veterinary practices.
• Pathogen information harmonised across six laboratories.

STANDARDISATION BACTERIOLOGICAL FINDINGS

• Harmonised within Germany and Austria.
• Central availability of results of bacteriological milk testings from laboratories in Austria following efforts to ensure data integration and harmonisation.

STANDARDISATION ANTIMICROBIAL TREATMENT

• Nationwide “Health monitoring in Cattle” programme in Austria.
• Veterinarian diagnoses are centrally recorded (Central Cattle Database) since 2006 → extension by harmonised electronic documentation of animal- and diagnosis-specific use of antimicrobials.
• Very diverse patterns of antimicrobial usage for treatment of mastitis and for drying-off observed.

METHODS

• Standardisation of bacteriological investigations.
• Standardisation of antimicrobial use data according to EMA and ESVAC and elaboration of farm comparisons.
• Elaboration of integrated tools for herd management and integration to Central Cattle Database where various relevant information is combined for decision support.

SUMMARY

• Assessing the infection status of the udder, by means of bacteriological milk culture, can assist in decision-making processes regarding more precise control and prevention measures to improve udder health.
• Harmonised documentation of treatments allows comparisons between farms.
• Next step: harmonisation of antimicrobial susceptibility testing.
• The more information available, the more targeted a treatment can be.
• Standardisation and integration of data play a crucial role to support the prudent use of antimicrobials on dairy farms.

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