BioSecure
Enhanced and cost-effective biosecurity in livestock production

SimHerd
Improves Your Decisions

PRACTICE ABSTRACT # 45

Economic estimation of biosecurity measures for cattle diseases

This project supports dairy farmers and advisors in selecting biosecurity measures based on both disease prevention and economic return.

Dairy farms increasingly invest in biosecurity to prevent introduction and spread of infectious diseases between herds and animals, but it is often **unclear which measures provide the greatest impact and economic return**.

This project developed **a practical decision-support framework** that compares combinations of biosecurity measures based on disease reduction, financial performance, and implementation costs.

The study **evaluated biosecurity strategies for three important infectious diseases**: paratuberculosis, bovine viral diarrhea virus (BVDV), and salmonella. Evaluations were done by simulation, across dairy production systems in Denmark, Italy, Canada, and the United States.

Results showed that relatively small biosecurity packages containing 3 to 6 measures generally achieved best economically.

Measures that consistently appeared among the best-performing strategies included hygiene of the cow lying area, quarantine of sick animals, and calving separation.

Expected net benefits ranged from less than €10 to more than €370 per cow per year depending on the infection pressure and farm conditions.

The analysis also demonstrated diminishing returns from adding too many additional measures, helping farmers avoid unnecessary investments while still achieving strong disease protection.

By focusing on measures with the highest combined health and economic impact, dairy farms can make more profitable management decisions under uncertain disease conditions.

The project provides farmers, veterinarians, and advisors with a practical and transparent way to prioritize biosecurity investments.

www.biosecure.eu

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