

IMPACT OF EXTERNAL BIOSECURITY MEASURES ON THE SPREAD OF FMD IN DENMARK

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Introduction

The present study aimed to simulate the epidemiological course of FMD outbreaks in two production herds, considering both currently assessed and enhanced biosecurity measures in Danish livestock herds.

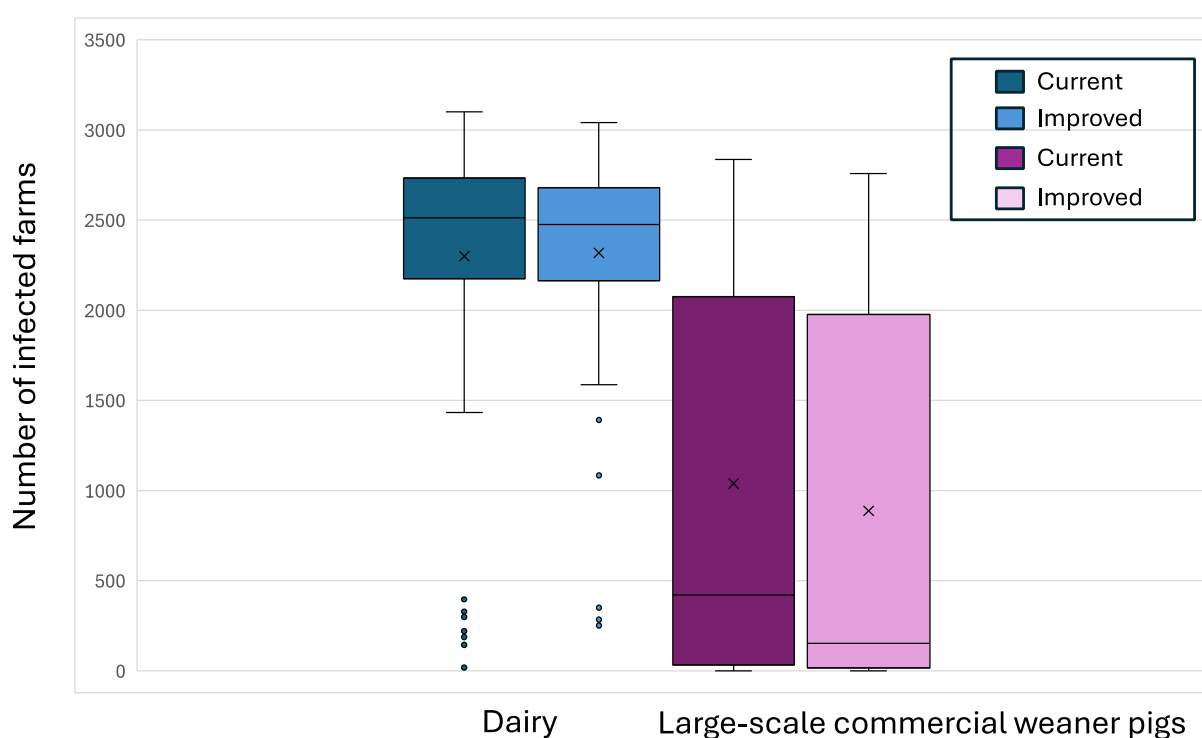
Methods

The EuFMDiS model was used to simulate FMD outbreaks via livestock movements, indirect contacts, local spread, airborne spread, and markets. A biosecurity weighting is used to reduce the likelihood of infection through local spread and indirect contact spread for herds practicing high levels of external biosecurity.

We compared the effect of default external biosecurity measures, with enhanced external biosecurity (improved by 25%). We modeled the introduction of the FMD virus in 1000 large dairy seeding herds in South Denmark and 1000 large-scale weaner pig herds (non-SPF seeding herds) in North Denmark (FMD introduction seeding herd scenarios).

Results

There were no significant differences in the model outcomes between default and enhanced external biosecurity measures for both FMD introduction seeding herd scenarios.



Discussion

Incorporating and analyzing internal biosecurity measures into the Danish EuFMDiS model could reduce the spread of FMD compared to external biosecurity measures.