

Abstract : Barriers and Motivation for Biosecurity in Danish Cattle Farmers”.

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To implement biosecurity measures at farm level is a motivational challenge to dairy farmers as emerging diseases and their consequences largely are unpredictable. One of the reasons for this challenge is that outcomes are more likely to benefit society than the individual farmer. From the individual farmer's point of view the impacts of zoonotic risk, international trade and welfare concerns appear less obvious than the direct costs at farm-level. Consequently, a social dilemma may arise where collective interests are at odds with private interests. To improve biosecurity at farm-level farmers must be motivated to change behavior in the 'right' direction which could provide selfish farmers with unintended possibilities to exploit the level of biosecurity provided by other dairy farmers' collective actions.

Farmers' perception of risk of disease introduction into a dairy herd was explored by means of Q-methodology. Participating farmers owned very large dairy herds and were selected for this study because Danish legislation since 2008 has required that larger farms develop and implement a farm-specific biosecurity plan. However, a year from introduction of this requirement, none of the participating farmers had developed a biosecurity plan.

Farmers' perception of biosecurity could meaningfully be described by four families of perspectives, labeled: cooperatives, confused, defectors and introvert. Interestingly, all families of perspectives agreed that sourcing of animals from established dealers represented the highest risk to biosecurity at farm-level.

Farmers and policy-makers are faced with important questions about biosecurity at farm-level related to the sanctioning system within the contextual framework of social dilemmas.

To solve these challenges we propose the development of a market-mediated system to (1) reduce the risk of free-riders, and (2) provide farmers with incentives to improve biosecurity at farm-level.