

Involving veterinarians in the implementation of biosecurity practices on dairy farms

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Introduction

On dairy farms worldwide, the adoption of biosecurity practices is limited. In order to reduce the risk of introduction and spread of diseases, the Canadian industry is aiming to implement farm-based biosecurity plans and strategies. Herd veterinarians are likely to be involved in the development of the farm biosecurity plan, but it is unclear what role veterinarians already have in regard to biosecurity, and what are the barriers to their involvement. The objective of this study was to describe the perception of veterinarians regarding biosecurity implementation on dairy farms, and to compare it to the perception of producers.

Materials and Methods

The present study used data from the Canadian National Dairy Study which was conducted between May and August 2015. Data included the dairy producers' perception of the effectiveness of different biosecurity practices, the involvement of their veterinarian concerning these practices, and their implementation on farm. The herd veterinarians of a convenience sample of the dairy producers were then contacted between April and June 2016 to collect data on their role in biosecurity on the farms, their perceived limitations for addressing biosecurity questions, and the constraints they believed producers were facing. Frequency distributions of categorical and qualitative data were described. The perceptions of veterinarians were compared to the perceptions of producers using the unweighted Cohen's kappa statistics (agreement beyond chance). Statistical analyses were conducted using R (R Core Team).

Results

The results presented here are based on the results from 107 dairy producers and 82 veterinarians from the province of Québec (Canada). Fifty-nine percent of the veterinarians reported discussing biosecurity with their client in the previous 12 months, and 60% of the producers reported discussing biosecurity with their veterinarian in the same period, but there was very poor agreement amongst

veterinarian-producer pairs ($\kappa = 0.11$). The agreement amongst veterinarian-producer pairs was also very poor for discussing the management of a closed versus open herd ($\kappa = -0.02$), of visitors ($\kappa = -0.04$), and of visitors' footwear and clothing ($\kappa = 0.06$). The reasons for veterinarians not addressing biosecurity with their clients were: lack of time ($n = 24$), opportunity ($n = 7$), and interest ($n = 5$).

Sixty-five percent of the veterinarians thought their client understood the importance of biosecurity on their farms, and 51% thought they were interested in maintaining biosecurity. However, 23% of the veterinarians thought their client perceived biosecurity as neither useful nor important, while only 2% of the producers had the same perception ($\kappa = 0.01$).

While most veterinarians considered they had the knowledge and the opportunity to evaluate (knowledge: 67%, and opportunity: 62%) and discuss (knowledge: 70%, and opportunity: 68%) biosecurity, only 22%, and 32% of the veterinarians considered they had enough skills to evaluate, and discuss biosecurity, respectively.

The reasons producers did not implement biosecurity practices, according to the veterinarians, were the absence, or their perception of absence, of biosecurity related problems ($n = 27$), their lack of time ($n = 19$), the associated costs ($n = 14$), their perception of no benefits ($n = 11$), their disinterest ($n = 9$), and their limited understanding or knowledge of biosecurity ($n = 7$).

Significance

Veterinarian-producer pairs demonstrated very poor agreement in terms of their perceptions or recollection of discussions about biosecurity practices. While there could be some recall bias, it is possible that a lack of communication skills plays a role in this. Most veterinarians believe they possessed the knowledge to assess and discuss biosecurity on dairy farms, but not the skills to do so. According to these results, training to involve veterinarians in the adoption of biosecurity practices on dairy farms should focus on skill development.