Pasteurella multocida, *Mannheimia haemolytica* and Bovine Coronavirus are the most frequently detected respiratory pathogens from bronchoalveolar lavages in Dutch dairy BRD calves.

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INTRODUCTION

Bovine Respiratory Disease (BRD) is a common cause of morbidity and mortality in dairy calves, which has long-term consequences (e.g. decreased milk production, poor reproductive performance, poor growth and longevity).

Although management practices such as commingling and group housing increase BRD risk, viral and bacterial pathogens cause the lesions characteristic of BRD. Monitoring and testing for BRD associated pathogens may facilitate the development of targeted vaccination programs.

OBJECTIVE

The objective of this study was to provide an overview of the prevalence results of BRD pathogens from bronchoalveolar lavages (BALs) performed on calves from Dutch dairy farms vaccinating against BRD pathogens.

MATERIALS AND METHODS

▶ From November 2019 until December 2021, MSD Animal Health performed several diagnoses of respiratory pathogens by PCR on BALs on Dutch dairy farms vaccinating against *Mannheimia haemolytica*, Bovine Respiratory Syncytial Virus (BRSV) and Parainfluenza 3 virus (PI3).

▶ BAL sampling (as previously described by Van Driessche et al. 2016) was performed on 194 calves (between 2 weeks and 6 months old) suffering from BRD. Samples were transported at ambient temperature and analyzed at the Veterinary Laboratory Gelderland (Epe, The Netherlands) by PCR for *Pasteurella multocida* (PM), *Mannheimia haemolytica* (MH), Bovine Corona Virus (BCoV), *Mycoplasma bovis* (MB), *Histophilus somni* (HS), BRSV and PI3.

The most frequently detected respiratory pathogens from dairy calves suffering from Bovine Respiratory Disease are *Pasteurella multocida*, *Mannheimia haemolytica* and Bovine Coronavirus.

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RESULTS

The results are shown in **Figure 1** and are in line with similar studies from Belgium (n=3234).[1]

Both studies show that the most prevalent bacterial pathogens are PM and MH. The most prevalent viral pathogen is BCoV.

Interestingly, only 1,5% of the BALs in this study were positive for PI3 whereas the seroprevalences of respiratory samples from BRD calves on another study in nonvaccinating dairy farms (Kuijk et al., 2022) were 66,6%. Vaccination with Bovilis® Bovipast®RSP may have reduced the circulation of PI3. It also indicates that many animals get in contact with PI3 field virus early in life or are still seropositive due to maternal antibodies.

FIGURE 1. Occurrence of multiple pathogens in a BAL sample.
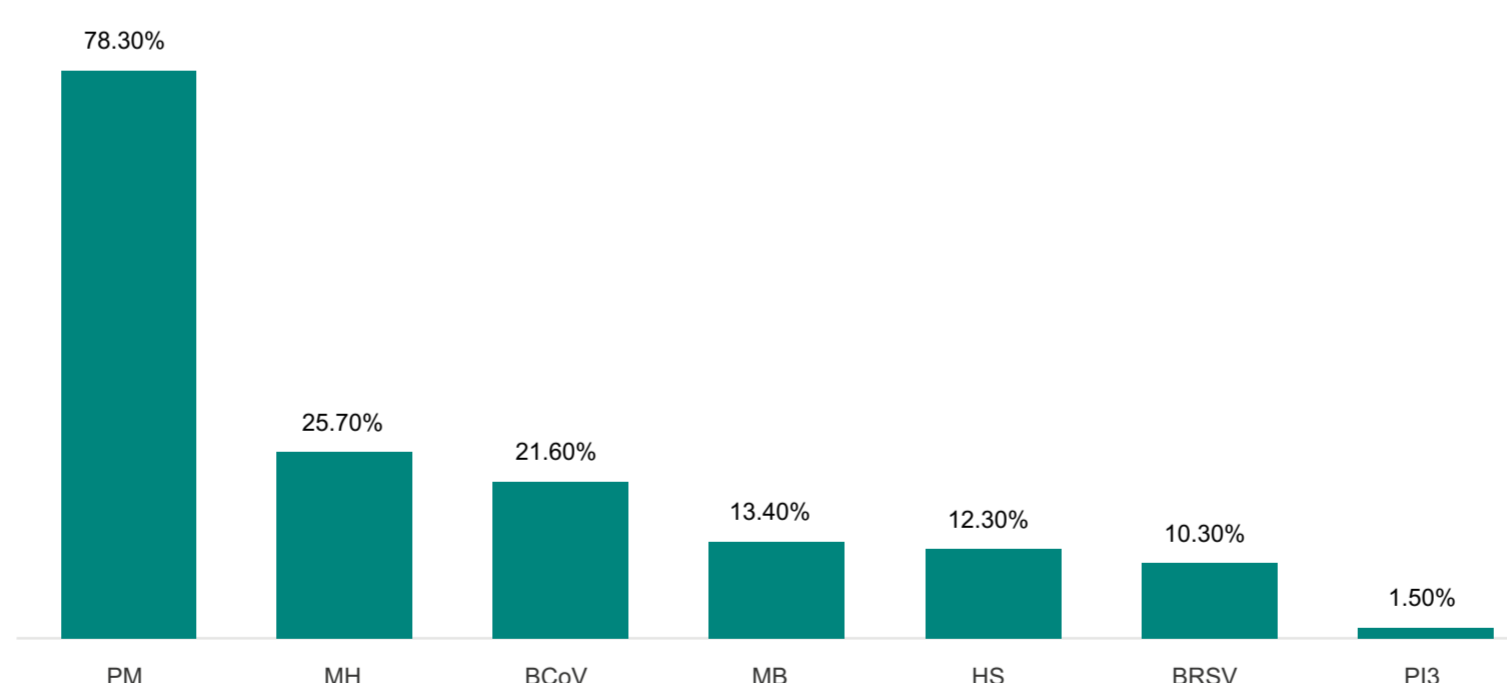
* Diagnoses of respiratory pathogens by PCR on bronchoalveolar lavages (BALs).

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