

Identification of BRD antibodies to install a tailor-made BRD Prevention Plan on Dutch dairy farms.

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INTRODUCTION

Bovine Respiratory Disease (BRD) is a multifactorial disease of young cattle. The factors that predispose to BRD include stress factors that lead to infection by primary viral pathogens which cause lung damage and may pave the way for various bacterial pathogens as *Mannheimia haemolytica* (Mh) and *Mycoplasma bovis* (Mb).

Vaccination is an important tool in managing BRD. Identification of major BRD respiratory pathogens may be essential to establish an appropriate vaccination program.

OBJECTIVE

In 2019 MSD Animal Health started a BRD Prevention Plan (that includes a serological screening: BRD QuickScan™ and a decision tree) to identify circulating BRD pathogens and to help veterinary practitioners to manage BRD on problem farms.

Depending on BRD QuickScan results, a tailor-made advice including management and vaccination is given.

BRD QuickScan results for 2020-2021 on Dutch dairy farms not vaccinating against BRD are presented.

MATERIALS AND METHODS

To run the BRD QuickScan, serum samples were taken from 5 calves (3-6 months old) on a BRD problem or suspected farm.

The samples were analysed in the Centre for Diagnostic Solutions (MSD Animal Health, Netherlands) for antibodies against Mh, Bovine Respiratory Syncytial Virus (BRSV), Parainfluenza 3 (PI-3) and *Mycoplasma bovis* by ELISA.

An in-house test was used to measure Mh and BRSV antibodies, whereas a commercial kit from IDEXX and Bio-X was used respectively for PI-3 and *Mycoplasma bovis*.

The results of samples collected between October 2019 to December 2021 are presented.

Veterinarians can implement a practical, tailor-made management and vaccination program to reduce BRD related losses and to promote BRD vaccination amongst farmers.



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RESULTS

- ▶ **Figure 1:** Results of 325 QuickScans.
- ▶ **Figure 2:** Decision tree based on the QuickScan sampling.
- ▶ These findings confirm the importance of the viral pathogens in the BRD complex, mainly combined with Mh.
- ▶ **Figure 3:** Percentage of measures applied by farms after adoption of the BRD Prevention Plan.

FIGURE 1. QuickScan sampling results (prevalence of antibodies against BRD pathogens).

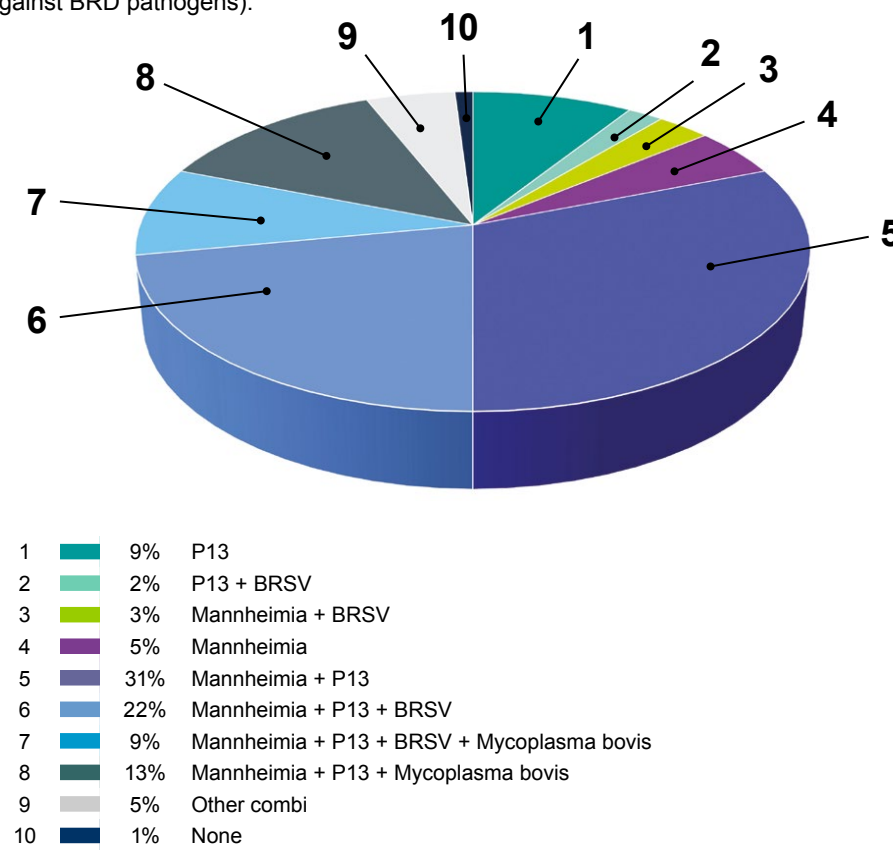


FIGURE 3. Percentage of measures adopted after the implantation of the BRD Prevention Plan (Total farms is 325).

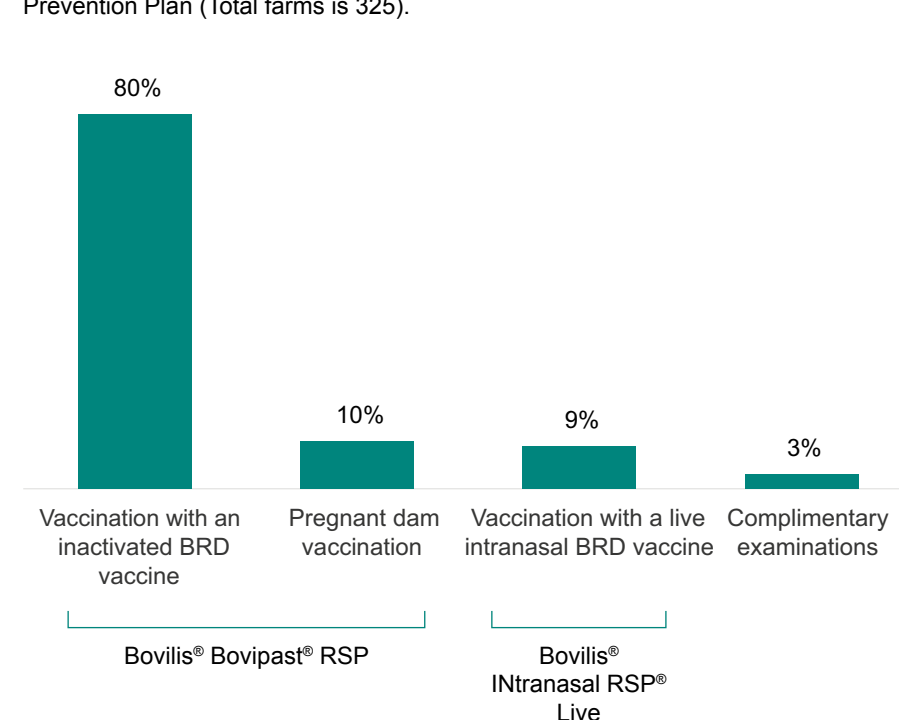
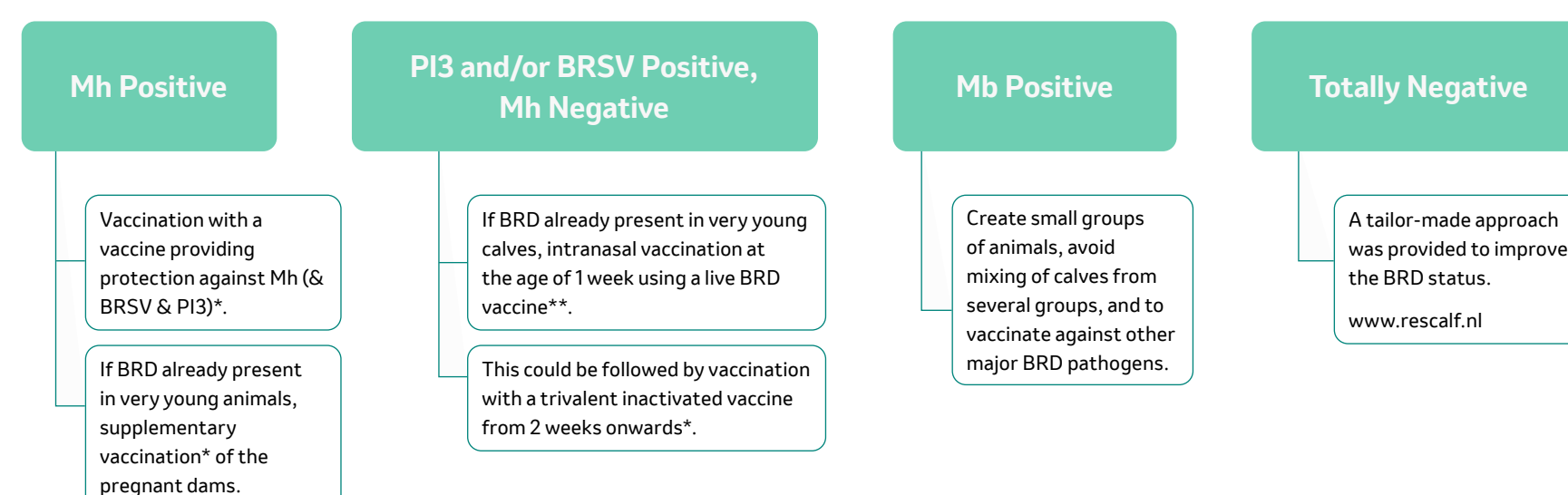


FIGURE 2. BRD QuickScan decision tree based on the antibodies sampling results.



*Bovilis® Bovipast® RSP; **Bovilis® INtranasal RSP® Live.
Mh (*Mannheimia haemolytica*); Mb (*Mycoplasma bovis*)

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