

# A Parainfluenza 3 virus outbreak on a Dutch Veal Farm.

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## INTRODUCTION

A serological screening of healthy animals for several BRD antibodies, may give more clarity on the importance of these pathogens, as well as an indication to which level antibodies may have an influence on primovaccination. The latter may help to develop an adapted vaccination schedule against respiratory disease.

## OBJECTIVE

In this field study, antibody titers against the BRD pathogens Parainfluenza 3 virus (PI3), Bovine Respiratory Syncytial Virus (BRSV), *Mannheimia haemolytica* and *Mycoplasma bovis* were determined in healthy calves on a Dutch rosé veal farm without major BRD problems. No vaccinations against BRD pathogens were performed on farm. The objective of the study was to determine major infectious risk factors for BRD.

## MATERIALS AND METHODS

Eleven randomly selected calves were blood sampled every 4 weeks from arrival (February 19<sup>th</sup>, 2019) until week 24 after arrival (August 30<sup>th</sup>, 2019). The eleven sampled calves were situated in a group of 220 animals.

This group changed housing once in week 9 after arrival and was always separately housed from other groups on the farm.

The group received 3 times an antibiotic treatment for 5 days starting from February 21<sup>st</sup>, March 4<sup>th</sup> and

March 19<sup>th</sup> with respectively doxycycline, tilmicosin and doxycycline.

All animals were monitored by the farmer and veterinarian as usual on this commercial veal farm.

All the collected samples were analysed at the Centre for Diagnostic Solutions (MSD Animal Health, Boxmeer, The Netherlands) by ELISA for antibodies against *Mannheimia haemolytica*, BRSV, PI3 and *Mycoplasma bovis*.

Vaccination against PI3 virus could have reduced the complications and potential losses of a BRD outbreak and improved the wellbeing of the animals on this farm.



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## RESULTS

100% of samples were seropositive for *Mannheimia haemolytica*.

91% of samples were seropositive for PI3.

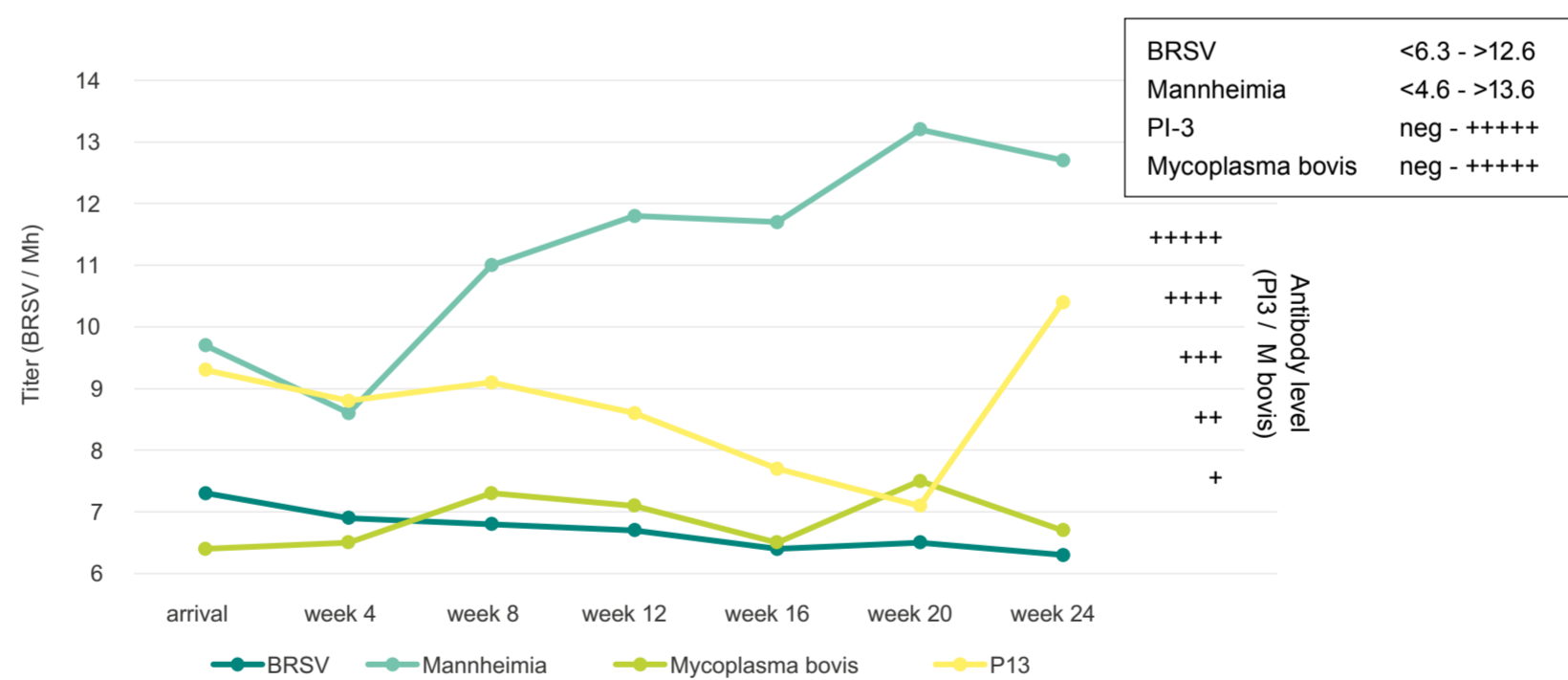
18% of samples were seropositive for BRSV.

Only 1 animal was seropositive for *Mycoplasma bovis* at arrival. However, at a later stage, each animal was at least once seropositive for *Mycoplasma bovis* with variable titers.

A BRD outbreak was identified at week 21 after arrival with exponentially increased PI3 antibodies at week 24 compared to week 20 (Fig 1).

The serology convinced the vet and farmer about the important role of PI3 in the BRD complex.

FIGURE 1. Average titers of 11 calves, blood sampled every 4 weeks.



Titers for PI3 antibodies increased exponentially at week 24 compared to week 20.

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