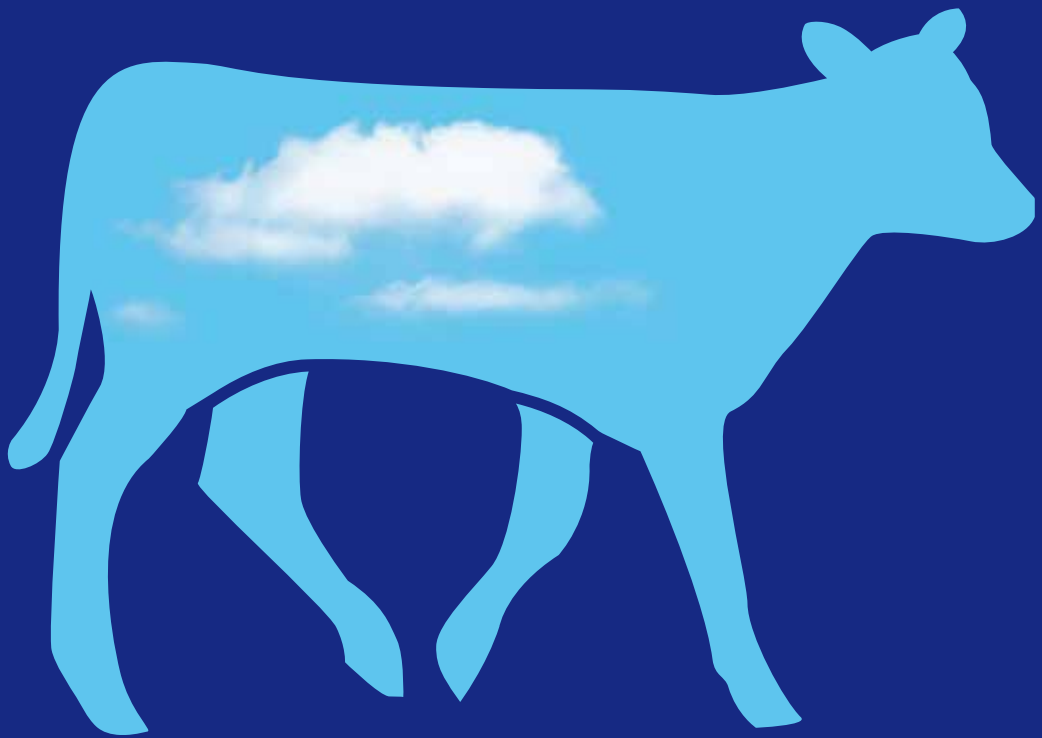
Technical Bulletin

Prevalence of Bovine Respiratory Disease pathogens in veal calves in the Netherlands



EVERY BREATH COUNTS

MSD Animal Health

Prevalence of Bovine Respiratory Disease pathogens in veal calves in the Netherlands[1]

Objectives

Due the complexity of Bovine Respiratory Disease (BRD), investigations on each individual BRD outbreak require a structured approach. Only tailor-made recommendations addressing the risk factors can lead to an improvement of the health status of calves. Expertis™ Rescalf is a digital program which offers veterinarians a structured approach to investigations of BRD problems and to develop a tailored advice. This approach combines anamnesis, farm audits and laboratory examinations. The Rescalf program was applied on 49 BRD outbreaks on veal calves farms during one year. The data were analyzed to specify the contribution of the different respiratory pathogens in veal calves. The results allow insight in the opportunities for a preventive approach against BRD in veal calves, including vaccination against specific BRD pathogens.

Material and Methods

During the period of June 2012 till June 2013, 49 different commercial veal calf farms with BRD problems were investigated in the Expertis™ Rescalf program and examined on history, farm audits and laboratory examinations. 18 of these farms were vaccinated against Infectious Bovine Rhinotracheitis-virus (IBR) starting at an age of 12 weeks. Laboratory examinations were done by a cross sectional serological investigation and by paired blood samples. *Mannheimia haemolytica* (*M. haemolytica*) and Bovine Respiratory Syncytial Virus (BRSV) antibody levels were measured with an `in house´ ELISA test, *Mycoplasma bovis* (*M.bovis*) antibody levels with the ELISA-MB test of Bio X and specific IBR antibodies were detected present or not present by ELISA-BHV-1 gE test of IDEXX. Increasing titers in older animals in cross sectional investigations and/or seroconversion in paired blood samples were considered as evidence for infection.[2]

Results

BRD problems were predominantly seen in the beginning of the fattening period starting 4 weeks after arrival. In total 527, 561, 459 and 619 veal calves were serologically examined for antibodies directed against *M. haemolytica*, BRSV, *M. bovis* and IBR respectively. In 98% of the veal calves farms *M. haemolytica* infections were diagnosed, 31% of the farms BRSV infections, 65% of the farms *M. bovis* infections and 29% of the farms IBR infections. At the individual calf level 55% of the examined calves aged younger than 8 weeks old had antibodies against *M. haemolytica*. In contrast 96% of the examined calves aged older than 21 weeks. BRSV antibodies were found in only 5% of the examined calves aged younger than 8 weeks and 18% of the examined calves aged older than 21 weeks. In 8% of the examined calves aged younger than 8 weeks antibodies against *M. bovis* were found and 56% of the examined calves aged older than 21 weeks. Antibodies against IBR were found in 24% of the examined calves aged younger than 8 weeks and 15% of the examined calves aged older than 21 weeks.

In a similar study in dairy calves *M. haemolytica* infections were diagnosed at an older age than in veal calves.[3] BRSV infections were found in 18% of the dairy farms, mostly in calves older than 3 months.

Conclusions

These results stress the importance of *M. haemolytica* infections on veal calves farms with BRD problems in the beginning of the fattening period. The incidence of BRSV infections especially at calf level was low; noticeable is the small number of calves with antibodies against BRSV aged younger than 8 weeks. Thereby, it most likely that *M. bovis* also plays a role in the BRD problems of veal calves farms. These data argue for a preventive approach of BRD on veal calves farm, including vaccination against *M. haemolytica* and BRSV. The prevalence of IBR antibodies in the beginning of the fattening period are mainly related to maternal antibodies. As earlier data showed, there is a relation between BRD problems in the end of the fattening period and IBR circulation. Vaccination against IBR on veal calves farms became more common. These results call for a preventive and structural approach of BRD problems on veal calves farms.

Figure 1
Mannheimia haemolytica antibody titers veal calves by age

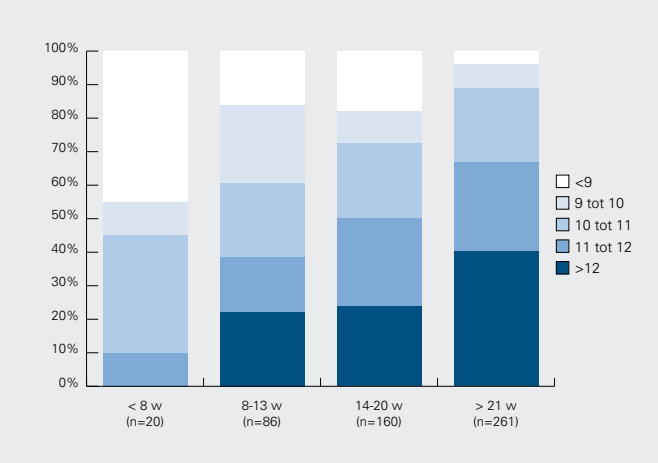


Figure 2
BRSV antibody titers veal calves by age

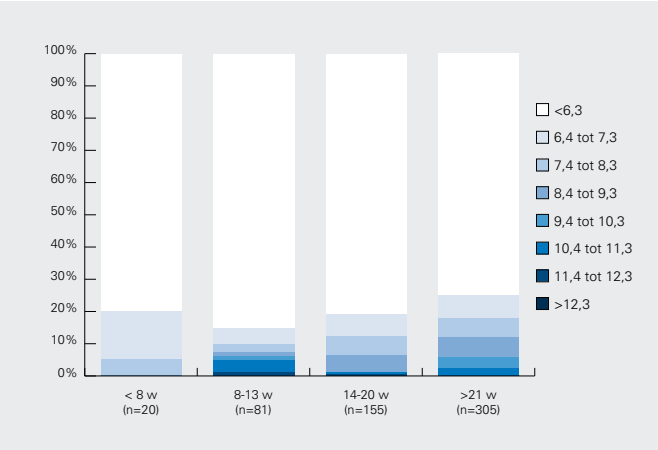
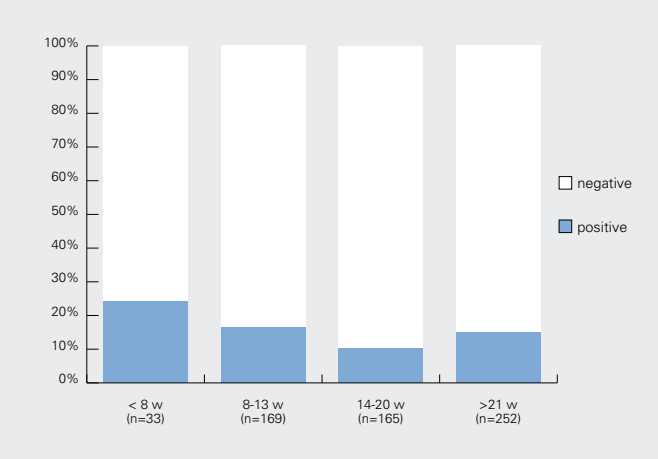


Figure 3
IBR gE antibody titers veal calves by age



References:
1. Nijhoving GH, Kuijk HA, Swam H, Makoschey B. Prevalence of Bovine Respiratory Disease pathogens in veal calves in the Netherlands. 28th World Buiatrics Congress, Cairns, Australia, 2014.
2. Nijhoving G.H., Kuijk H.A., Makoschey B. Pilot study: Serological investigation on the role of Bovine Respiratory Syncytial Virus and Mannheimia haemolytica in the aetiology of Bovine Respiratory Disease in youngstock on Dutch dairy farms. European Buiatrics Forum, Marseille, France, 2011.
3. Kuijk HA, Nijhoving GH, Swam H, Makoschey B. Identification of risk factors for bovine respiratoy disease on Dutch dairy farms. 28th World Buiatrics Congress, Cairns, Australia, 2014.

BOVILIS
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BOVILIS BOVIPAST

VACCIN TEGEN LUCHTWEGPROBLEMEN

- Unieke combinatie voor een brede bescherming
  - BRSV
  - PI-3 virus
  - *Mannheimia haemolytica*
- Vroege bescherming (vaccinatie vanaf 2 weken)
- Veilig en effectief
- Gelijktijdige toediening met Bovilis IBR marker live geregistreerd
- Beschikbaar in 10 doses en 12 x 10 doses presentaties

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uw partner voor longgezondheid

Bovilis Bovipast - Resflor - ResCalf

Bovilis® Bovipast, bevat per dosis (5 ml) geïnactiveerd PI-3 virus, stam SF-4 Reisinger: HA titer ≥ referentieserum, geïnactiveerd BRS virus, stam EV 908: VN titer ≥ referentieserum, geïnactiveerd *M. haemolytica* type A1, stam M4/1: 9 x 10^9 bacteriën. **Doeldier**: Rund. **Indicaties**: Vaccin tegen BRS virus, PI-3 virus en *M. haemolytica* serotype A1 en A6. **Bijwerkingen**: Na vaccinatie kan een tijdelijke, lokale vaccinatiereactie voorkomen. Een tijdelijke verhoging van de lichaamstemperatuur gedurende ten hoogste drie dagen kan voorkomen. Een gelijktijdige onwilligheid om te bewegen kan voorkomen vanwege een stijve nek bij de injectieplaats. Af en toe kunnen overgevoeligheidsreacties voorkomen. **Toediening en dosering**: Eén dosis van 5 ml via subcutane injectie ter hoogte van de zijkant van de hals. **Wachttijd**: 0 dagen. **Waarschuwing**: Maternale antistoffen kunnen het resultaat van de vaccinatie ongunstig beïnvloeden. REG NL 9260 UDD. Voor overige informatie, zie bijsluiter.

Blijf op de hoogte en kijk op **www.rundvee-msd-animal-health.nl**
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