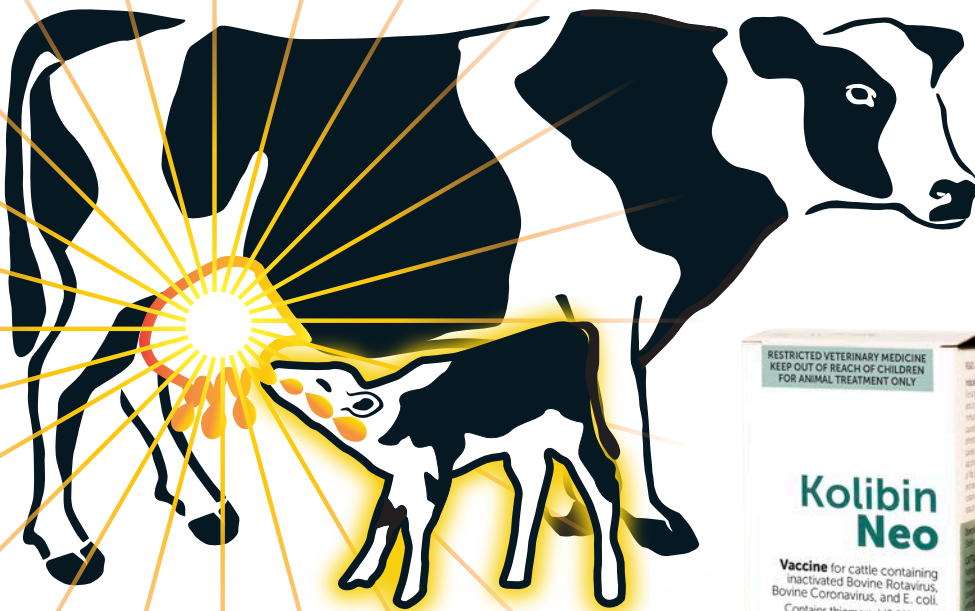


# Kolibin **Neo**

The Optimal Booster Vaccine

Ensure calves get the  
**Ultimate Colostrum**



**BOOST** cows to protect calves against  
➤ Rotavirus ➤ Coronavirus ➤ *E coli*

# About Kolibin Neo

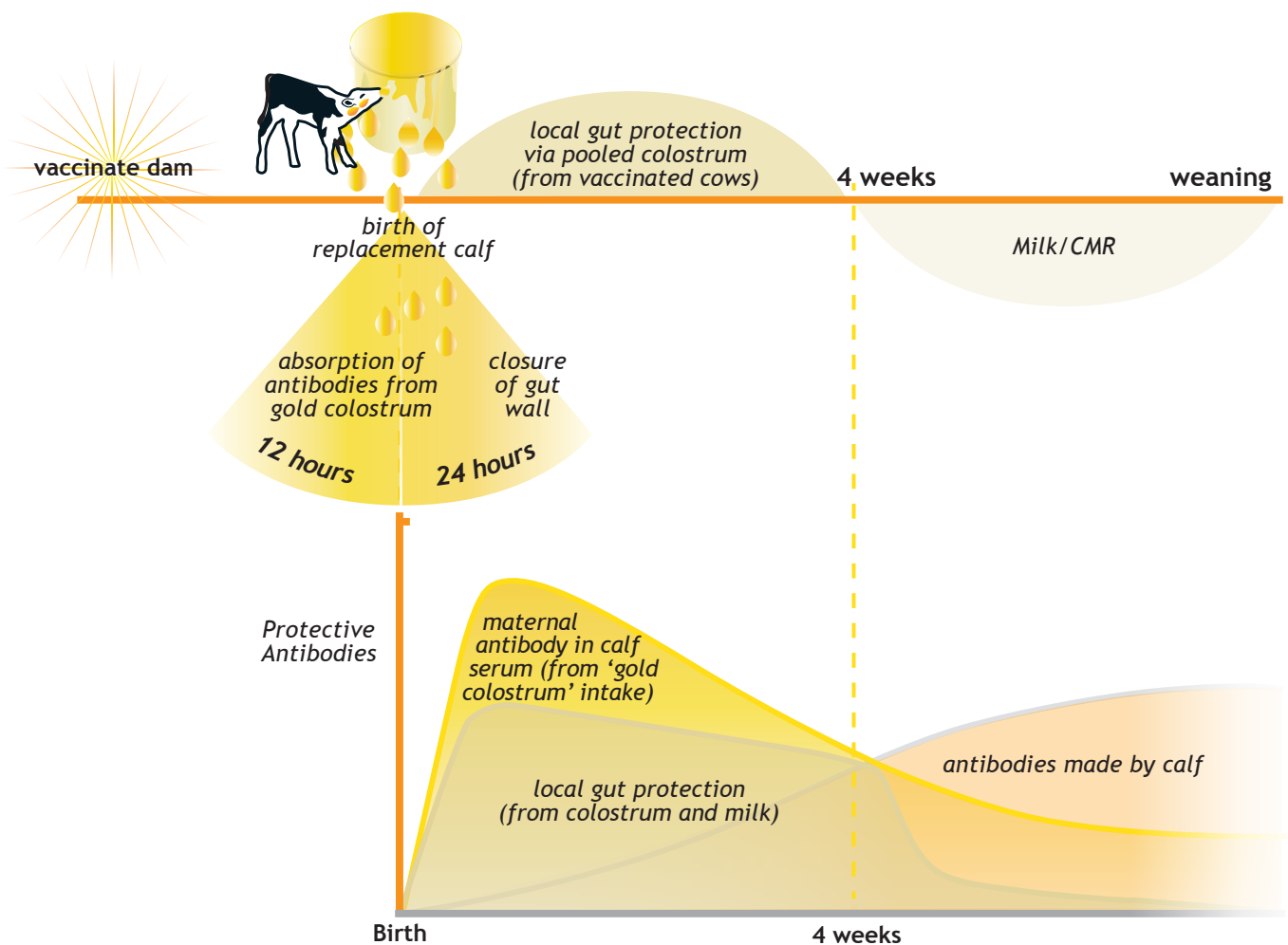
Kolibin Neo is used to actively immunise pregnant heifers and cows. Subsequent colostrum transfer of antibodies generated in response to the vaccine provide newborn calves with passive immunity against gastrointestinal diseases caused by rotavirus, coronavirus and enteropathogenic *E. coli* strains.

When calves consume colostrum and milk from vaccinated cows during the first four weeks of life, these antibodies reduce the incidence and severity of diarrhoea caused by rotavirus, coronavirus and *E. coli* (K99) and reduce virus shedding by infected calves.

# When to Use Kolibin Neo

Kolibin Neo has a wide window of efficacy and can be used 2 - 12 weeks prior to calving

# Dynamics of Colostral Protection



Immunoglobulin (Ig) protection of calves fed 'gold colostrum' within 12 hours of birth (from Kolibin Neo vaccinated cows) and then pooled colostrum until 4 weeks after birth

## Benefits of Kolibin Neo

Window for booster vaccination is 2 - 12 weeks prior to calving	Convenient product to use across the entire seasonal calving herd
Tissue-friendly, modern, proven, highly efficacious adjuvant	Reduction of injection site reactions commonly associated with other 'scours vaccines'
Operator and cow safe product	No human safety concerns whilst vaccinating
Contains most prevalent and NZ relevant rotavirus serotype combination Broad spectrum and highly efficacious <i>E.coli</i> immunity High coronavirus antibody production	Very high antibody levels in vaccinated cows' colostrum, and a high level of efficacy resulting in optimal protection of calves
Approved booster vaccine for either Rotavec or Scourguard	Suitable for boosting previously vaccinated herds

## About Colostrum

- Due to the nature of the cow's placenta, calves are born virtually agammaglobulinaemic (without antibodies) so colostrum is essential for providing protective immunoglobulins
- Lactogenesis and colostrum production begins as early as 5 weeks prior to calving in cattle
- Secretion of antibodies into colostrum in the mammary gland intensifies during the last week before calving
- Maximal immunoglobulin secretion into colostrum is ensured if the cow has sufficient antibody titres during this period
- Immunoglobulins are secreted against antigens the dam has been previously exposed to
- Kolibin Neo vaccination results in optimal secretion of antibodies against rotavirus, coronavirus and *E.coli* K99 into colostrum
- Adequate colostrum transfer of antibodies to the calf requires sufficient ingestion of good quality colostrum within the first 8-12 hours of life
  - Colostrum quality and antibody concentration rapidly declines after calving
  - 'Gold colostrum' (first milking) should be ingested by the calf within the first 8-12 hours of life for systemic absorption of immunoglobulins. After this time the intestinal epithelial cells lose the ability to absorb macromolecules by endocytosis ('gut closure')
  - During the 4 weeks after birth continue to feed pooled colostrum (from milkings 2-8) to provide local (gastrointestinal) passive immunity
- Collecting newborn calves at least twice a day provides the biggest benefit from vaccinating with Kolibin Neo, to ensure calves can be fed sufficient 'gold colostrum' within the optimal window for maximal antibody absorption

# Calf Scours in New Zealand

A recent survey of calf faecal samples has documented the prevalence of enteropathogens of calves in NZ dairy farms (Mawly, et al. 2015). This survey showed that rotavirus is extremely prevalent in calves during the first three weeks of life. Coronavirus was also commonly found. *E. coli* was found in calf faecal samples on 11% of farms during the first week (and was not tested in samples from older calves). These samples were taken from apparently healthy calves (not considered to be sick or scouring). The prevalence data is shown in Figures 1 and 2.

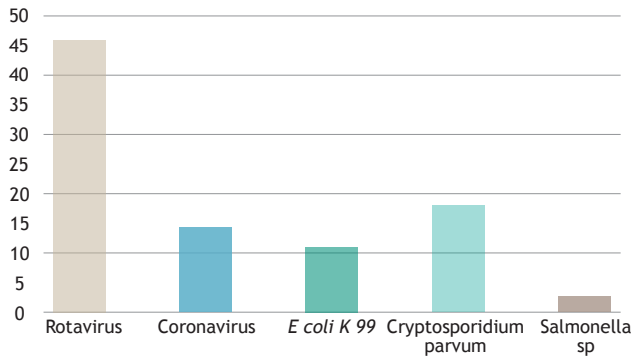


Figure 1. Farm level prevalence of enteropathogens in faecal samples from calves aged 1 - 5 days (n=429) on 97 dairy farms throughout NZ

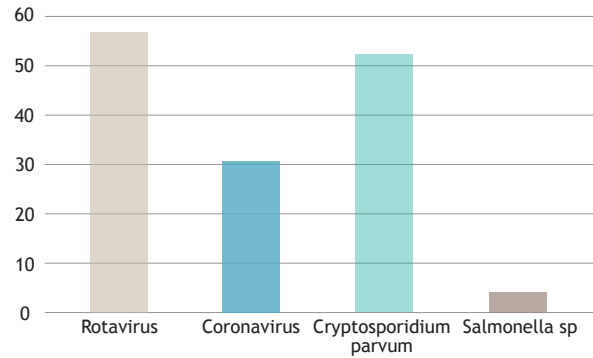


Figure 2. Farm level prevalence of enteropathogens in faecal samples from calves aged 9 - 21 days (n=797) on the 97 dairy farms throughout NZ. (*E.coli* K99 was not tested)

Risk factors for diarrhoea were evaluated during the survey (Mawly, et al. 2015) and the presence of rotavirus and co-infection with more than one enteropathogen increased the likelihood of liquid faeces. Conversely, vaccinating cows against calf enteropathogens significantly reduced the probability of liquid faeces in the calves sampled. This demonstrates at herd level, vaccination of cows and heifers against scour pathogens does significantly reduce diarrhoea in calves reared as replacements.



Kolibin Neo is a Restricted Veterinary Medicine, registered pursuant to the ACVM Act 1997, No. A11242  
 Rotavec and Scourguard are Restricted Veterinary Medicines, No. A08132, A10057 registered to MSD and Zoetis respectively

References

- Chuck, G. CalfWise: Right from the start. (2015) Proceedings of the Society of Dairy Cattle Veterinarians of the NZVA, Annual Conference 71 - 79.
- Mawly, J Al, et al. (2015) Prevalence of endemic enteropathogens of calves in New Zealand Dairy farms. NZVJ 63(3), 147 - 152.
- Mawly, J Al, et al. Risk factors for neonatal calf diarrhoea and enteropathogen shedding in New Zealand dairy farms. (2015) The Veterinary Journal 203, 155-160.