

# UK study: comparing antibody quantities in commercial calf scour pastes vs. the same volume of colostrum from cows vaccinated with a commercial calf scour vaccine.

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## INTRODUCTION

Neonatal Calf Diarrhoea (scour) is a common and costly disease on farms. It has been demonstrated previously that feeding colostrum with high levels of antibodies is protective against calf scour<sup>1,2</sup>.

Little information is however available regarding quantity of antibodies in commercial scour pastes, however a recent survey revealed that the UK farmers rated dam vaccination and scour pastes as equally efficacious scour prevention tools<sup>3</sup>.

## OBJECTIVE

The aim of this study was to measure antibody levels against rotavirus and coronavirus in commercially available calf scour pastes, and to compare the results with the same volume of colostrum from cows vaccinated with a commercial calf scour vaccine.

## MATERIALS AND METHODS

- ▶ Six different popular commercial scour paste brands were sourced from various agricultural trade stores (2 tubes of each brand).
- ▶ Samples of colostrum from 13 randomly selected heifers and cows which had been vaccinated during pregnancy with a commercial calf scour vaccine (Bovilis® Rotavec® Corona; MSD Animal Health; as per SPC) were collected directly after calving and transported to the lab.
- ▶ Rotavirus and coronavirus antibody titres in all samples were determined using a standard fluorescent antibody virus neutralisation test in all samples of colostrum and scour paste. The antibody titres reported were the reciprocal of the final dilution at which significant neutralization of the virus by the sample was still seen.

This study illustrates that calf scour pastes are not a suitable substitute for good colostrum management and dam vaccination in preventing calf scour.



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## RESULTS

- ▶ The 6 brands of calf scour pastes tested in this study contained on average markedly numerically lower levels of rotavirus and coronavirus antibodies compared to the same volume of colostrum from vaccinated cows (Fig.1).
- ▶ Average VN antibody titres for tested scour pastes (12 tubes) (Fig.2):
  - > 10800 (min 80, max 81920) for coronavirus.
  - > 4341 (min 40, max 14482) for rotavirus.
- ▶ Average VN antibody titres of the same volume of colostrum from the vaccinated cows and heifers:
  - > 57383 (min 7241, max 81920) for coronavirus.
  - > 33846 (min 10240, max 81920) for rotavirus.

FIGURE 1. Virus neutralizing antibody titres in analyzed calf scour pastes and colostrum from vaccinated dams (n=13).

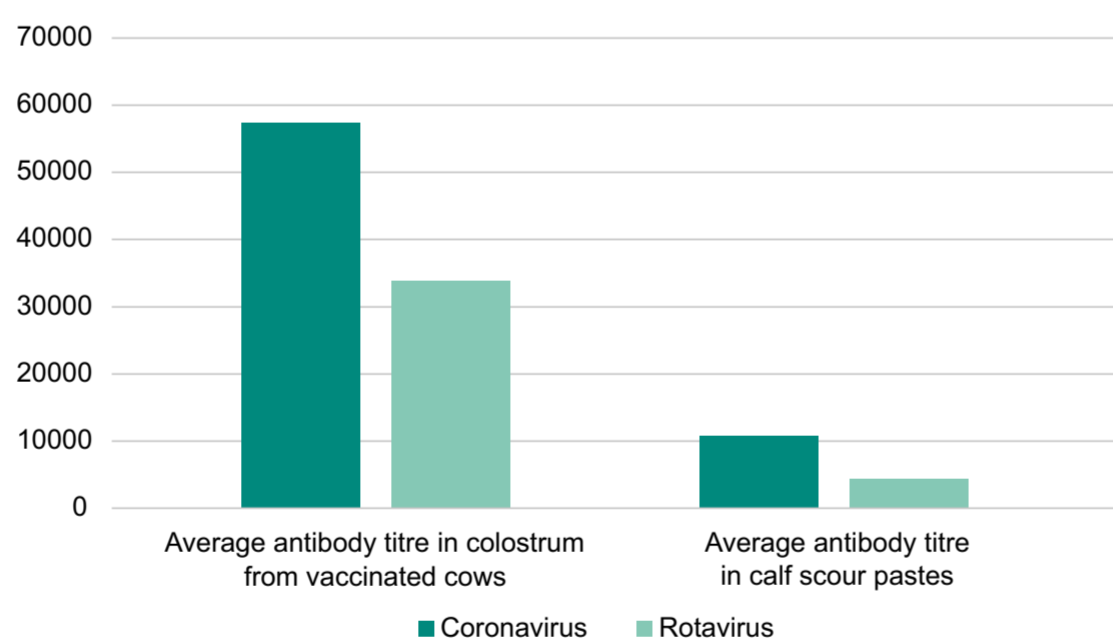
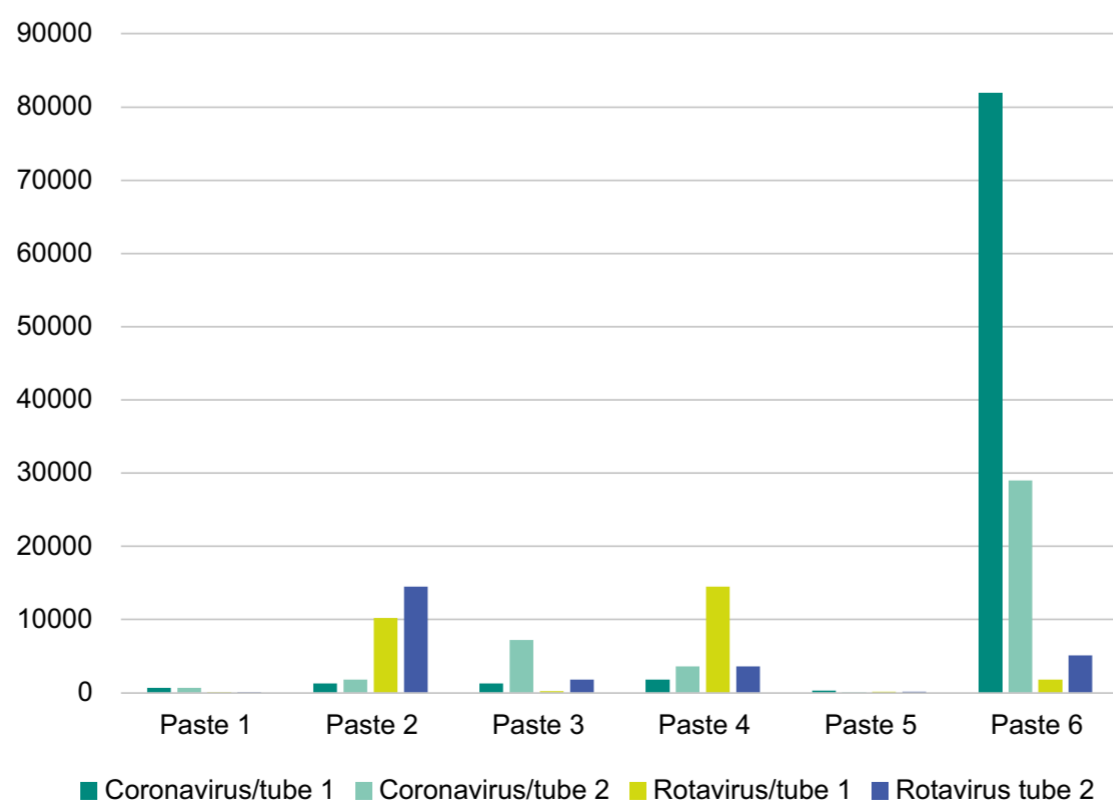


FIGURE 2. Virus neutralizing antibody titres in analyzed calf scour pastes (n=12 tubes, 2 tubes/brand).



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## REFERENCES

- Saif et al. J Dairy Sci 1985;68:206-228.
- Leece J. et al. J Clin Microbiol 1990;29: 1382-1386.
- MSD Animal Health National Youngstock Survey 2018 (data on file).