

## Impact of ScourGuard<sup>®</sup> 4KC and Scour Bos<sup>®</sup> on Colostral Antibody Titers in Dairy Cattle<sup>1</sup>

### KEY FINDINGS

- In this study, vaccination of dairy cows with Scour Bos<sup>®</sup> resulted in significantly higher colostral antibody titers to bovine coronavirus and bovine rotavirus compared to unvaccinated cows
- Cows vaccinated with Scour Bos also had significantly higher bovine coronavirus colostral antibody titers and numerically higher bovine rotavirus colostral antibody titers compared to cows vaccinated with ScourGuard<sup>®</sup> 4KC
- Higher colostral antibody titers mean more antibodies against these common pathogens are available to the calf for early defense

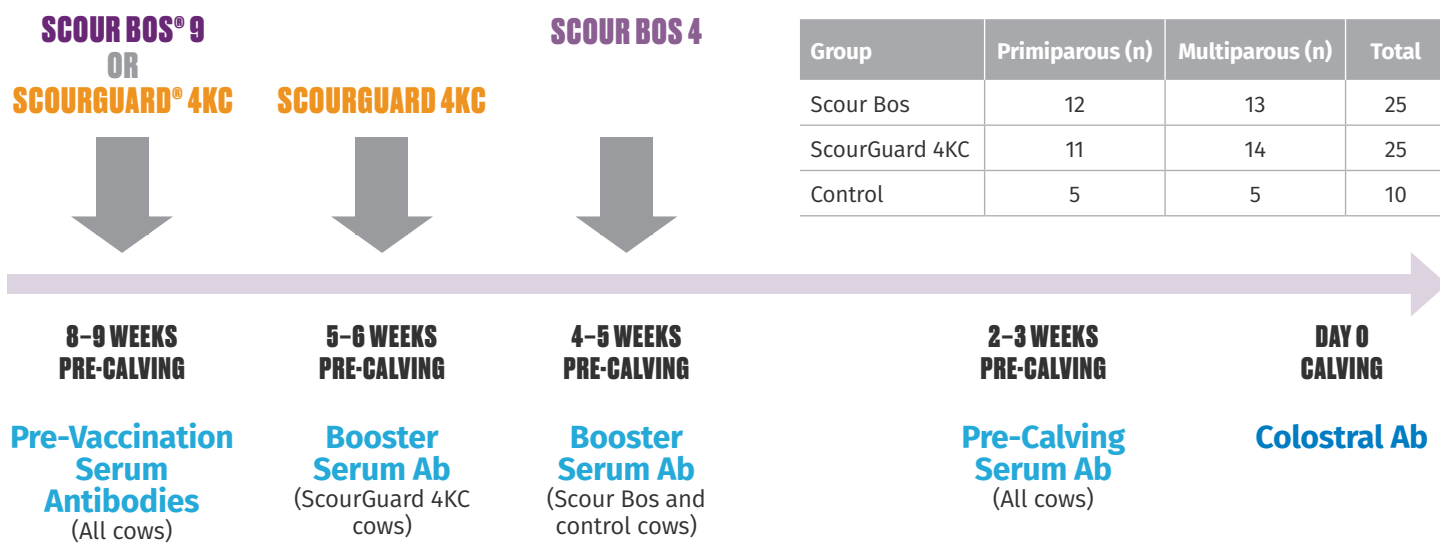
### STUDY OVERVIEW

The objective of this study was to assess colostral antibody titers to bovine rotavirus and coronavirus in cows vaccinated with Scour Bos, ScourGuard 4KC and unvaccinated controls. A secondary objective was to document the serum antibody titers against the same pathogens along the pre-calving period in the same animals.

### TRIAL DESIGN (SEE FIGURE 1)

- Trial was conducted on a commercial dairy in California from February 15 to April 26, 2021
- Sixty non-lactating, pregnant animals entering their first or greater lactation were used in the study
- Cows were randomly enrolled to one of three treatment groups
  - Group 1: Unvaccinated control
  - Group 2: Two doses of ScourGuard 4KC
  - Group 3: Scour Bos 9 followed by Scour Bos 4
- All vaccines were administered by veterinarians according to label directions with a new needle and syringe used for each cow
- Cows were bled prior to vaccination, at the time of booster vaccination and approximately 2 weeks prior to projected calving
- Colostrum was collected at calving
- All laboratory personnel were blinded to treatments

**FIGURE 1. SCHEMATIC OF TRIAL AND NUMBER OF COWS BY PARITY AND TREATMENT**



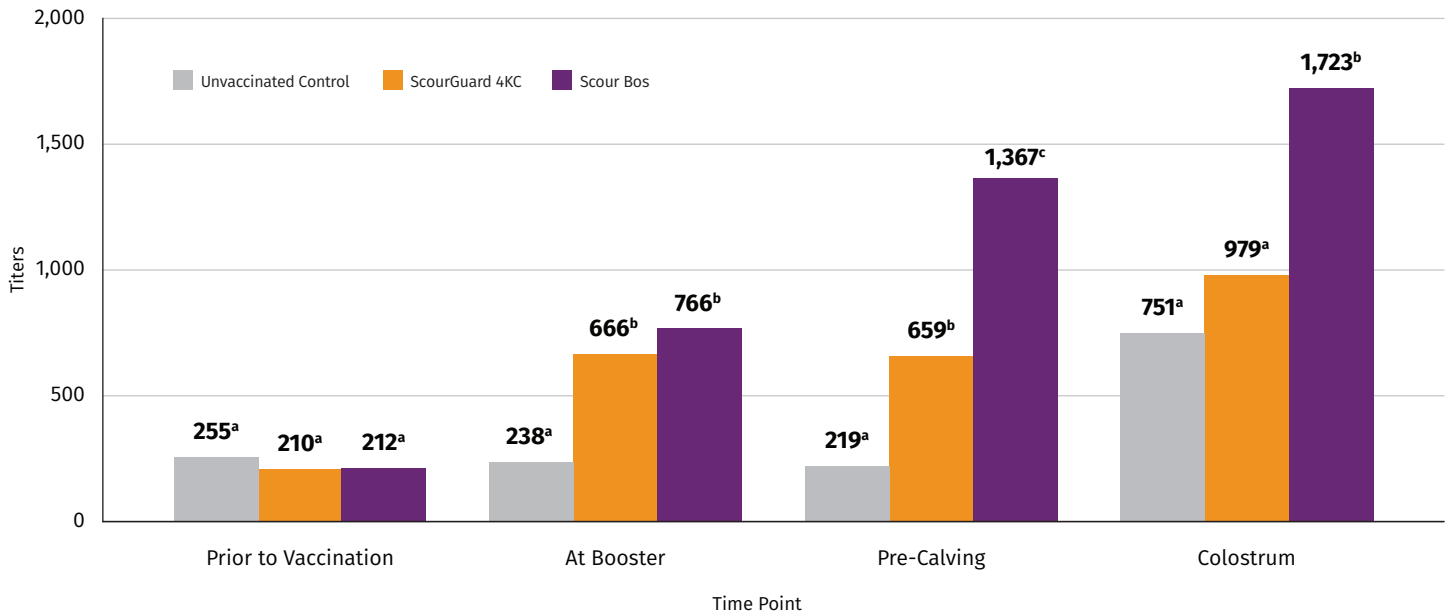
## STUDY GROUPS

- **Group 1: Unvaccinated control**
  - Cows were not vaccinated and used as negative controls
- **Group 2: ScourGuard 4KC vaccinates**
  - Cows were vaccinated with ScourGuard 4KC eight to nine weeks prior to calving
  - Booster dose of ScourGuard 4KC was administered three weeks after the initial vaccination
- **Group 3: Scour Bos vaccinates**
  - Cows were vaccinated with Scour Bos 9 eight to nine weeks prior to calving
  - Booster dose of Scour Bos 4 was administered four weeks after the initial vaccination

## STUDY RESULTS

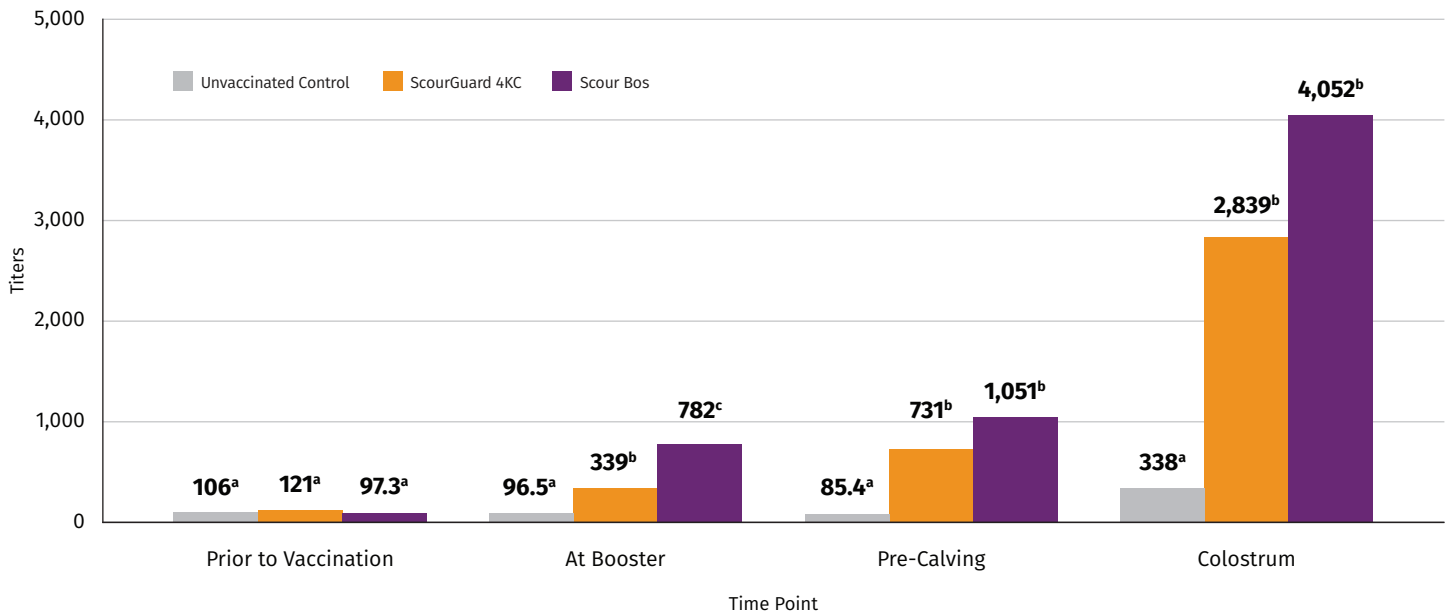
- Geometric mean titers for both vaccinated groups and for the unvaccinated control group at various time points are illustrated in Figures 2 and 3
- At initial vaccination, all titers for bovine rotavirus and coronavirus were low, and there were no statistical differences between the three groups
- At the booster vaccination, there were no significant differences between Scour Bos and ScourGuard 4KC bovine coronavirus titers ( $P = 0.63$ ), but both were significantly greater than the unvaccinated control group ( $P < 0.0001$ )
- Still at the time of booster vaccination, but for the rotavirus titers this time, cows vaccinated with Scour Bos had 2.3X higher titers than cows vaccinated with ScourGuard 4KC ( $P < 0.001$ ), and both vaccine groups were significantly higher than the unvaccinated control group (Figure 3.)
- **Colostrum antibody titers to bovine coronavirus were significantly higher for Scour Bos vaccinated cows than cows vaccinated with both ScourGuard 4KC and unvaccinated control cows ( $P < 0.05$ ) (1.8X and 2.3X higher respectively,  $P < 0.01$ )**
- **For bovine rotavirus, colostrum antibody titers were numerically higher in the Scour Bos group than the ScourGuard 4KC group ( $P = 0.2037$ ), and both vaccines were significantly higher than unvaccinated controls ( $P < 0.0001$ )**

**FIGURE 2. GEOMETRIC MEAN ANTIBODY TITERS BY TIME POINT FOR BOVINE CORONAVIRUS\***



\* Levels at each time point not connected by same letter are significantly different based on Log2 titers ( $P < 0.05$ )

**FIGURE 3. GEOMETRIC MEAN ANTIBODY TITERS BY TIME POINT FOR BOVINE ROTAVIRUS\***



\* Levels at each time point not connected by same letter are significantly different based on Log2 titers ( $P < 0.05$ )

## CONCLUSION

Scour Bos resulted in significantly higher antibody titers to bovine coronavirus and bovine rotavirus in colostrum compared to unvaccinated control cows. Additionally, Scour Bos resulted in significantly higher colostrum titers to bovine coronavirus, and numerically higher colostrum titers to bovine rotavirus, than ScourGuard 4KC. Scour Bos should be considered as part of a program to control neonatal calf diarrhea caused by these viruses.

*To learn more about how Scour Bos® can boost immune response and protect your herd against the leading causes of scours, contact your herd health veterinarian, Elanco sales representative or technical consultant.*



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**The label contains complete use information, including cautions and warnings.  
Always read, understand and follow the label and use directions.**

<sup>1</sup> Elanco Animal Health. Data on file.

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