

# How GUARDIAN Gives You the Most Complete Scours Protection

## Broad-spectrum coronavirus and rotavirus protection

To help prevent the most frequently diagnosed causes of viral scours.

## Broadest spectrum clostridial protection

To help prevent intestinal infections that can kill a calf before you know it.

## The most sophisticated subunit *E. coli* technology

To ensure effective and safe *E. coli* protection for your peace of mind when vaccinating pregnant cattle.

## The only scours vaccine labeled for subcutaneous administration

To help meet BQA guidelines across all segments of the industry.

## A vaccination schedule that favors production of antibodies that will be concentrated in colostrum when they're needed

So your vaccination efforts aren't wasted by vaccinating too late.



▶ The Most Complete Scours Protection ◀



[www.guardianvaccine.com](http://www.guardianvaccine.com)

<sup>1</sup>House, J.A. 1978. Economic Impact of Rotavirus and Other Neonatal Disease Agents. *JAVMA*.  
<sup>\*</sup>Data on file at Intervet/Schering-Plough Animal Health Corporation.  
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Scour Bos is a registered trademark of Novartis AG. SPAH-GRD-105B

SB DAIRY



▶ The Most Complete Scours Protection ◀

- ▶ BEST SPECTRUM OF PROTECTION.
- ▶ BEST MANUFACTURING TECHNOLOGY.
- ▶ BEST VACCINATION PROTOCOL.



 **Intervet**  
Schering-Plough Animal Health

Improve calf survival rates by administering Guardian® vaccine to pregnant cows and heifers to transfer protection against scours to their calves via colostrum.\* GUARDIAN is the only bovine scours vaccine manufactured with subunit technology for the K99 *E. coli* fraction for specific immune response and low reactivity.

### Protecting Your Investment in Your Herd

Calf scours is one of the most costly and disheartening events in a dairy producer's already challenging business. Sound management practices can have a major impact on reducing the incidence of scours. One of those practices is vaccination of the dam to increase scours-fighting antibodies in colostrum. Making sure calves receive sufficient antibody-rich colostrum within the first 2-24 hours of life is vital. And choosing the right scours vaccine is critical.

### When You Choose GUARDIAN, You Get a Vaccine That Contains:

#### 2 strains of Coronavirus, Types 1 and 3 2 strains of Rotavirus, Types G6 and G10

- ▶ Coronavirus Type 3 is responsible for 80% of Coronavirus scours.<sup>1</sup>
- ▶ Coronavirus is the virus most likely to cause fatal cases of scours.<sup>1</sup>
- ▶ Since viral infections don't respond to antibiotics, prevention is far more effective than treatment.
- ▶ Broad-spectrum viral protection with GUARDIAN limits your risk of viral wrecks and more work.
- ▶ GUARDIAN is the ONLY scours vaccine to contain Coronavirus Type 3.

#### 3 strains of Clostridium perfringens bacteria, Types B,\*\* C and D

- ▶ This organism is in the same family as those that cause blackleg and tetanus, so you know it's deadly.
- ▶ Clostridial infections are often called "sudden death diseases" because while they can be treated, there usually isn't time.
- ▶ Clostridial infections can kill before scours even begins, so for your confidence, GUARDIAN provides the broadest protection available to avert death from *Cl. perfringens*.
- ▶ GUARDIAN is the ONLY bovine scours vaccine to protect against *Cl. perfringens* Types B and D, as well as C.

\*\*The combination of *Cl. perfringens* Types C and D in the vaccine provides cross protection against Type B.

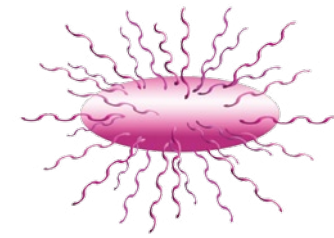
#### K99 *E. coli* bacteria

- ▶ K99 antigen is the protective part of the *E. coli*, which is what you want.
- ▶ Whole *E. coli* vaccines contain cell wall endotoxins that increase the risk of systemic reactions such as abortion, anaphylaxis and even death.
- ▶ GUARDIAN is the ONLY scours vaccine manufactured with K99 *E. coli* subunit technology, which produces clean pilus antigens.

### The GUARDIAN *E. Coli* Difference

#### 21st Century Subunit Technology: Clean Pilus Antigen

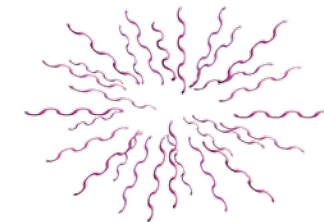
*E. coli* consist of a cell within a cell wall, and filaments – called pili – projecting from the cell wall.



The K99 *E. coli* pili stimulate production of protective antibodies.

All K99 *E. coli* pili are the same, regardless of the *E. coli* strain. Any *E. coli* cell and cell wall are potentially dangerous sources of endotoxin.

GUARDIAN manufacturing concentrates the antigenic pili and minimizes the endotoxin-containing cell wall.



GUARDIAN manufacturing harvests the pili for use in the vaccine.

This creates a clean product with high concentration of K99 pili.

#### The results are:

- A strong and extremely targeted *E. coli* immune response.
- Reduced risk of reactions – local or systemic – to *E. coli* vaccination.

### Compared to GUARDIAN, Scour Bos® 9 contains:

- ▶ Only 1 strain of coronavirus, Type 1, but not the more common Type 3
- ▶ A rotavirus type 8, which is undiagnosed in the U.S.
- ▶ Only 1 strain of deadly *Clostridium perfringens*, Type C
- ▶ K99 *E. coli*
  - The *E. coli* protection by Scour Bos 9 depends on whole-cell manufacturing.
  - The four strains of bacteria all contain the same K99 *E. coli* antigen.
  - Causes more severe post-vaccinal reaction.

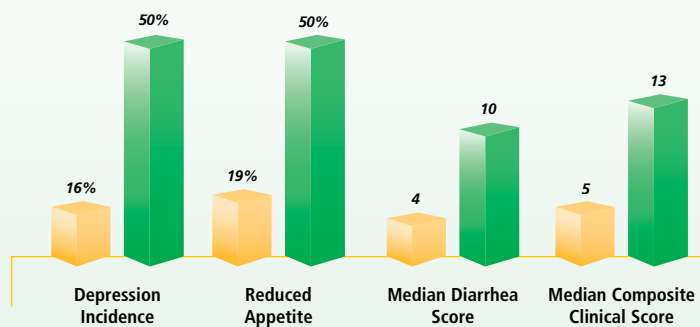
### Compare Scour Bos 9 to GUARDIAN

	Scour Bos 9	GUARDIAN
Coronavirus	Type 1	Types 1 and 3
Rotavirus	Serotype G6 Serotype G8 Serotype G10	Serotype G6 Serotype G10
<i>Cl. perfringens</i>	Type C	Types B, C, D
K99 <i>E. coli</i>	Whole cell	Subunit pili

Use GUARDIAN scours vaccine. It could be one of the best investments you'll make in herd health and the quality of your own life.

#### ROTAVIRUS CHALLENGE 12 HOURS AFTER FEEDING COLOSTRUM

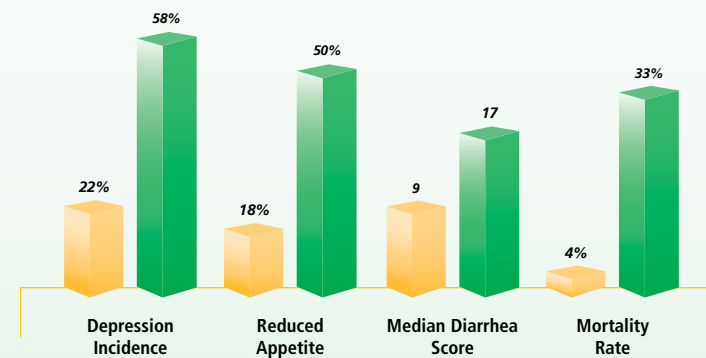
■ Calves fed colostrum from GUARDIAN-vaccinated heifers  
■ Calves fed colostrum from non-vaccinated heifers



Protection Against the Most Relevant Rotavirus Strains

#### CORONAVIRUS CHALLENGE 3 HOURS AFTER FEEDING COLOSTRUM

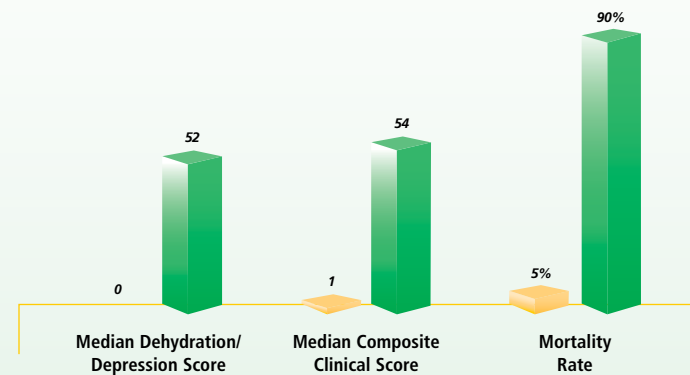
■ Calves fed colostrum from GUARDIAN-vaccinated heifers  
■ Calves fed colostrum from non-vaccinated heifers



Protection Against the Most Prevalent Coronavirus Strains

#### *E. COLI* K99 CHALLENGE WITH HETEROLOGOUS STRAIN

■ Calves nursing GUARDIAN-vaccinated heifers  
■ Calves nursing non-vaccinated heifers



Mortality Reduced by 95% Among Calves from Vaccinated Dams



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