CLOSTRIDIA...
IT’S WHAT YOU CAN’T SEE.

BACIFLEX®
Clostridial Defense CALF

Papillon Feed Efficiently
Clostridia are gram-positive, anaerobic, spore-forming bacteria commonly found in the environment and in the gastrointestinal tract of dairy cows and calves. The species most responsible for enteric diseases in calves is *Clostridium perfringens*. Under favorable conditions, all types of *C. perfringens* produce potent toxins resulting in calves off feed, decreased growth performance, and digestive disorders.
Clostridium induced digestive disorders pose a challenge to every dairy. Onset in nursery and young, thrifty calves is often sudden and acute with little response to treatment. While antiserum products are often used to combat *C. perfringens* type C & D, they may not cover the diversity of *C. perfringens* type A strains found on most farms. Overpopulation of *C. perfringens* type A may cause:

- Distended Stomach
- Diarrhea
- Necrotic Enteritis
- Sudden death

Fortunately there’s Baciflex®- CALF
BaciFlex-Calf is a nonantibiotic direct-fed microbial that uses cutting-edge Bacillus technology to defend against Clostridia. Its proprietary strain of Bacillus subtilis produces bacteriocins that naturally inhibit toxigenic and non-toxigenic Clostridium and enhance calf performance.

THE BACIFLEX-CALF ADVANTAGE

- Targets C. perfringens type A
- Fewer calves off feed
- Improves intestinal balance
- Provides nutritional benefits that enhance immune function
- Increases performance as well as Neo-Terra
- Deliverable through milk, milk replacer, and milk supplements

The Bacillus strain utilized in BaciFlex-Calf is Generally Recognized As Safe (GRAS) and is exempt from the Veterinary Feed Directive (VFD).
PHILOSOPHY BEHIND BACIFLEX-CALF

While no two dairies are identical, all deserve a comprehensive, more natural solution to the Clostridial challenges they face. How does BaciFlex-Calf address this need while accounting for regional diversity?

HARNESSING THE POWER OF MICROBIAL TERROIR™

The microbial terroir concept considers the total community of microorganisms in the gastrointestinal tract of a calf (microbiota) in addition to environmental elements that impact those organisms (terroir). Microbial terroir characteristics vary from one region to another, indicating the need for a formulation of BaciFlex-Calf that provides optimal coverage in all regions.
As detailed below, the microbial terroir program uses advanced molecular biological techniques to characterize regional microbial terroirs, screen for the Bacillus candidate that best inhibits Clostridia, and formulate Baciflex-Calf.

1. Calf feed and fecal samples are collected from farms across the US.
2. Clostridial DNA is isolated from the samples.
3. Isolates are analyzed to determine if they are toxigenic.
4. Toxigenic Clostridium are grouped into families.
5. Isolates from each family of Clostridia are grown as ‘indicator’ strains.
BaciFlex-Calf utilizes the *Bacillus* strain that inhibits the broadest range of toxigenic and non-toxigenic Clostridia in all regions. Continuous monitoring and on-farm validation ensure BaciFlex-Calf is responsive to Clostridial population changes.

**OPTIMAL COVERAGE**

1. **Proprietary Bacillus strains are grown and beneficial bacteriocins are isolated.**
2. Clostridial strains and *Bacillus* bacteriocins are combined in culture plates.
3. After incubation, the percent inhibition of the Clostridia is calculated.
4. The *Bacillus* strain that inhibits the broadest range of toxigenic Clostridia is identified.
5. BaciFlex-Calf is formulated using the most effective *Bacillus* strain.
PROTECTION THAT PERFORMS

Research conducted by the University of Minnesota shows BaciFlex-Calf enhances pre and post-weaning performance as well as Neo-Terra (NT).

BACIFLEX-CALF IMPROVES AVERAGE DAILY GAIN (DAY 1 TO 56) AS WELL AS NEO-TERRA (NT)
THAT’S THE BACIFLEX-CALF ADVANTAGE

Feeding BaciFlex-Calf numerically improves starter intake which is vital to producing healthy calves that meet growth benchmarks and become top producers in the herd.

FEEDING BACIFLEX-CALF INCREASES TOTAL STARTER INTAKE (DAY 1 TO 56)

<table>
<thead>
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(BaciFlex-Calf)
BaciFlex-Calf is Papillon’s direct-fed microbial formulated specifically for calves. Learn how its Bacillus technology can optimize immune function and growth performance in calves and improve your bottom line today!

Easton, MD
(800) 888-5688
BaciFlex-Calf.com