



# DUODECIM

(do-o-d-c-um)

*Clostridium perfringens* can cause abomasal bloat & sudden death in milk-fed calves.

Duodecim is a blend of sodium salts of fatty acids and direct-fed microbials to be added to the milk of preweaned calves.

Transmission electron microscopy of *Clostridium perfringens*

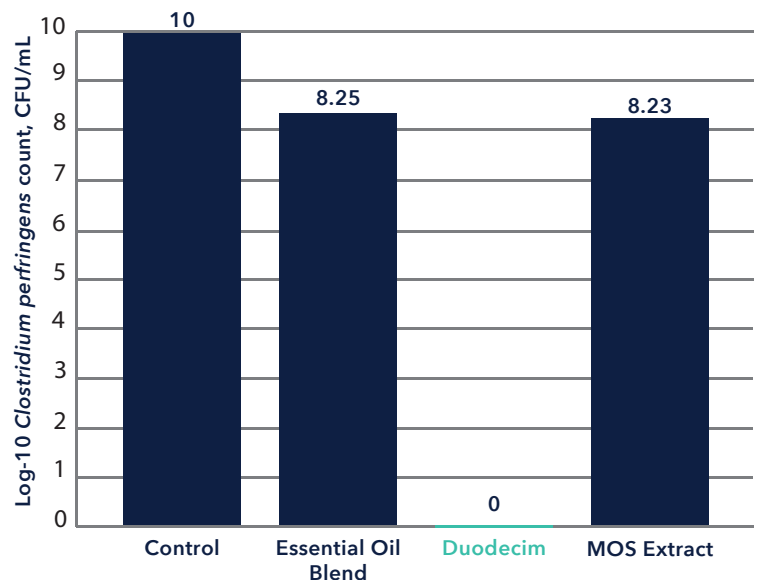


Viable *Clostridium perfringens*



Killed *Clostridium perfringens* in the presence of Duodecim

Duodecim Inhibits Growth of *Clostridium Perfringens* in Milk Culture



\*Data reported after 24 hr culture. Duodecim and MOS extract were tested at 0.5 or 1 mg/mL and Pure Essential Oil Blend tested at 0.0125 and 0.025 mg/mL.



GASTRO-  
INTESTINAL



VIGOR



PROTECT

**A blend of sodium salts of fatty acids and direct-fed  
microbials to be added to the milk of preweaned calves.**

### GUARANTEED ANALYSIS

Dry Matter (min)..... 95%  
Fat (min)..... 65%

### DIRECTIONS FOR USE

#### Calves

- **Finished Feed or Milk Replacer:**
  - Add 1 to 8 kg (2.2 to 17 lbs) per ton
- **On-farm:**
  - Supplement 1 to 4 grams per head per day.

#### Swine and Poultry

- Supplement 3 kg per ton of finished feed

### INGREDIENTS

Sodium Salts of Fatty Acids,  
and Butylated Hydroxytoluene  
(preservative).

### PACKAGING & STORAGE

Available in:

- 50 lb bag (#5031)
- 10 kg bucket (#5032)
- 2.5 kg bucket (#5034)

Store in a cool, dry place. Keep tightly closed and minimize exposure to moisture.



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