



PHOENIX
FEEDS & NUTRITION

PROBAC6

Novel CBS™ Cattle Boulardii Strain

A highly concentrated and cost-effective source of the probiotic active dry yeast *Saccharomyces boulardii* (*S. boulardii*). Novel CBS™ is prepared specifically for the beef and dairy cattle industries.

Novel CBS™ is an effective probiotic because it is hardy enough to survive throughout all stages of the gastrointestinal tract (GIT) regardless of the host species. When the probiotic thrives, then the host can receive the benefits of the probiotic.

Saccharomyces boulardii is scientifically documented to have multiple health benefits:

- **NEUTRALIZES ENDOTOXINS** (*Clostridium* spp., *E. coli*, *Salmonella* spp.)
- **BINDS** to pathogens and **REMOVES** them from the host's gut
- **STIMULATES** the innate and adaptive immune system of the host
- **REDUCES** pro-inflammatory cytokines (TNF- α , IL-6, IFN- γ) **STRENGTHENS** gut wall integrity of the host (tight junction proteins enhanced)
- **INCREASES** production of Short Chain Fatty Acids (Butyrate and Propionate)

Novel QUATTRO™ Four Strain Bacillus Based Probiotic

Novel QUATTRO™ is based on the foundation of *B. subtilis* and *B. licheniformis*. These two strains are commonly used *Bacillus* based probiotics in the cattle market today. While solid and effective at inhibiting pathogens and producing digestive enzymes, they are honestly old technology strains.

Novel QUATTRO™ enhances the proven two-strain foundation by being the first to introduce *B. coagulans* and *B. amyloliquefaciens* together into a cattle probiotic.

B. coagulans is known for producing lactic acid, particularly L(+) lactic acid, but is not delicate and fragile like most lactic acid bacteria probiotics.

- **SURVIVES** high temperatures, acidic conditions, and salinity
- **REDUCES** the pH in the lower gut environment, creating unfavorable conditions for many pathogenic microbes
- **PROVEN** to ferment both hexose and pentose sugars under anaerobic conditions at normal body temperatures
- *B. amyloliquefaciens* is a known pathogen inhibitor and a strong enzyme producer, specifically generating amylase for starch digestibility.

Lactococcus lactis Lactic Acid Bacteria Probiotic

Lactococcus lactis can produce antimicrobial peptides (AMPs), which are proven to inhibit various Clostridia species:

- C. perfringens
- C. butyricum
- C. tyrobutyricum
- C. beijerinckii
- C. sporogenes

Lactococcus lactis has been proven to inhibit Clostridia species and to limit Salmonella growth. Co-culture Experiment at UGA showed inhibition of S. Typhimurium by L. lactis probiotic. Lactococcus lactis stimulates the production of isobutyrate in the rumen. Isobutyrate is widely recognized as an indicator of rumen fiber-digesting bacteria growth.

Diamond V® XPC Ultra Fermentation-based Postbiotics

Used in all classes of ruminant diets. They are not single compounds, but rather products composed of numerous beneficial metabolites (proteins, peptides, antioxidants, phytosterols, organic acids and nucleotides) together with beta glucans and mannans that support animal health and performance.

The benefits of Diamond V® XPC Ultra are many. It provides the critical nutritional health support for rumen health and efficiency resulting in optimal production.

The benefits can be seen in:

- Production
- Reproduction
- Body Growth
- Maintenance



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