



Bovacillus™

BOVACILLUS™ is a science-based and research-proven combination of heat stable probiotic strains for dairy cattle through all life stages.

Research has proven that daily feeding of **BOVACILLUS™**:

- Improves feed efficiency and energy corrected milk
- Produces enzymes and, as a result, increases fiber and starch digestibility
- Reduces the load of pathogenic bacteria to decrease health challenges
- Helps to maintain a healthy gut

The resilience and versatility of BOVACILLUS™ allow this new technology to be used in a broad array of applications.

CHR HANSEN

Improving food & health



For producers who want the best conditions for their cattle
Isolated from nature, **BOVACILLUS™** is a combination of *Bacillus licheniformis* and *Bacillus subtilis*. These strains were chosen for their capacity to directly influence nutrient digestibility and decrease the burden of pathogens.

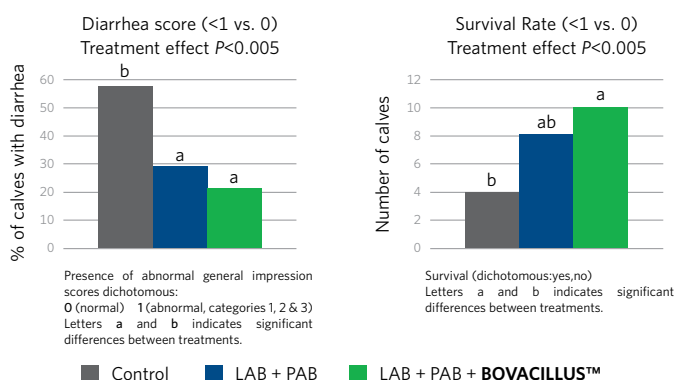
The problem

Proper health, nutrition and management are vital components of a successful dairy operation. Calves, heifers and lactating cows go through many stress factors such as weaning, transportation, social changes, diet variation and physiological changes during lactation and transition. These stress factors can contribute to an increase in disease and poor feed utilization. Preventing health events and maximizing feed and pasture digestibility are key factors to achieve a profitable and sustainable operation.

BOVACILLUS™ for a healthy herd

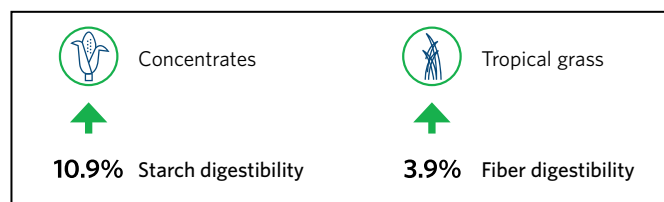
BOVACILLUS™ has shown great results in inhibiting the growth of a broad range of pathogenic bacteria and thereby minimizing the negative impact they impose. In a study where calves were exposed to high doses of *Clostridium perfringens* Type A, additional benefits were observed for both diarrhea and survivability when **BOVACILLUS™** was combined with another probiotic (Figure 1).

Figure 1: BOVACILLUS™ improved the health of calves in a controlled *in vivo* challenge study



BOVACILLUS™ for improved nutrient digestibility

In an *in vitro* digestibility trial using rumen fluid, the two bacteria strains in **BOVACILLUS™** were shown to have the ability to degrade feed ingredients through the production of enzymes. This means that **BOVACILLUS™** can have a direct impact on the performance of dairy animals.

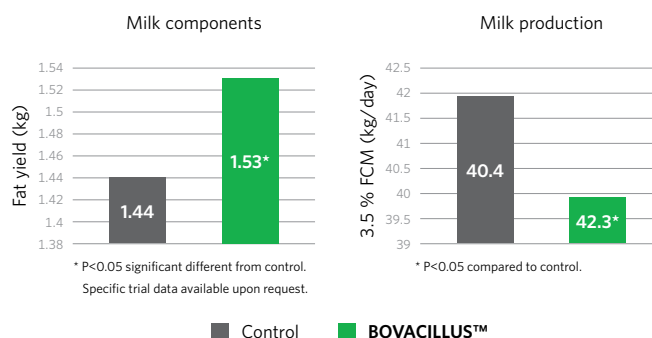


Reference: Oliveira *et al.* (2016)

BOVACILLUS™ for improved performance in dairy cows

In a university trial with 80 early lactation Holstein cows (40 per treatment) fed a commercial diet, **BOVACILLUS™** improved milk and fat yield and tended to increase feed efficiency.

Figure 2: Daily feeding of BOVACILLUS™ resulted in a positive shift in the efficiency of production



BOVACILLUS™ for convenient and diverse application

The resilience and versatility of **BOVACILLUS™** allow this new technology to be used in a broad array of applications. It can be used in pelleted feed, premixes, blocks, cubes, mash feed, mineral mix, milk replacers, pasteurized milk and complete feed.

Conclusion

Thanks to its diversified and synergistic mode of action, **BOVACILLUS™** is a sustainable solution to aid the health and performance of dairy cattle.

Package: 20 kg bags

- 20 kg bags: **BOVACILLUS™** product provides 3.20×10^9 CFU/g of *Bacillus licheniformis* and *Bacillus subtilis*

Storage:

Store product in a cool, dry area to maintain stability during shelf-life. Keep package closed except when dispensing product.

Shelf life:

24 months when stored as specified.

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