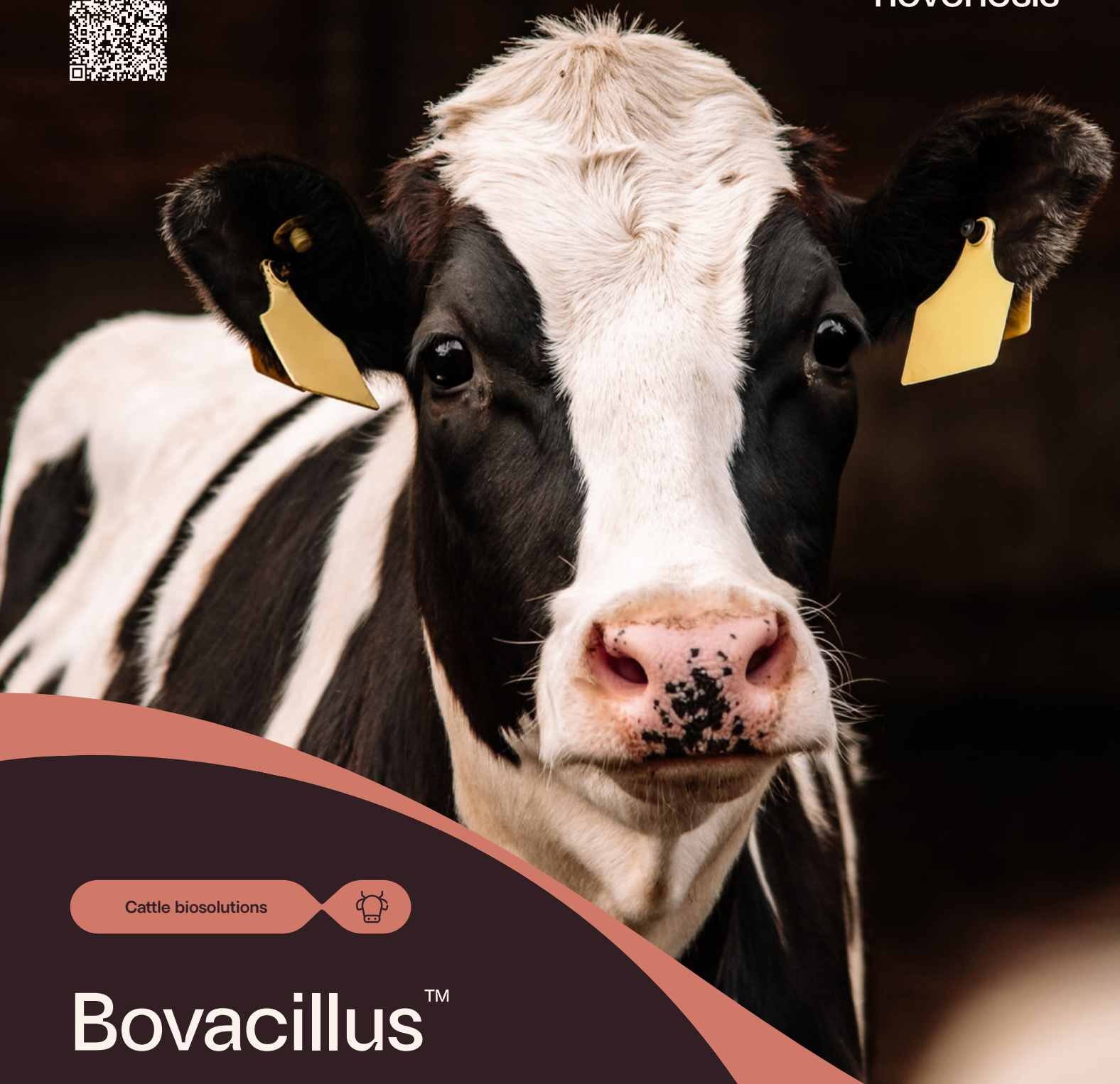




novonesis



Cattle biosolutions



BovacillusTM

Novonesis' BovacillusTM is a feed-stable probiotic that supports the health and productivity of your dairy cattle.

Research indicates that daily feeding of BovacillusTM:

- Supports feed efficiency in lactating dairy cows
- Produces enzymes that increase nutrient digestibility
- Contributes to beneficial bacteria colonization in the intestine

BovacillusTM probiotic produces a broad range of digestive enzymes to support the better utilization of different types of feed ingredients. Its versatility and stability in application makes it easy to use in any operation.

Your challenges

Good health, proper nutrition, and effective management form the backbone of a strong dairy operation. Dairy cows face many challenges throughout their productive life, including social changes, dietary shifts, environmental challenges, and physiological changes during transition and lactation. These can lead to poor feed utilization and lower performance. Achieving a profitable, sustainable dairy operation depends on healthy cows and feed efficiency.

Your Novonesis biosolution

Add Bovacillus™ probiotic, a dual-strain direct-fed microbial (DFM), to your toolbox and harvest the benefits for your dairy herd and your overall operation.

Key features:

- **Dual-strain probiotic:** Contains *Bacillus licheniformis* and *Bacillus subtilis*, carefully selected for their digestive and health benefits.
- **Backed by research:** Demonstrated benefits in both *in vitro* and *in vivo* trials across different conditions and in different countries. Works both in rumen and in the lower gut.
- **Feed-stable and convenient:** Maintains effectiveness in various feed types, including pellets, premixes, blocks and liquids.

Key benefits:

- **Enhance nutrient digestibility:** Produces enzymes that break down fiber and starch in different feeds and diets, improving the feed efficiency of the herd.
- **Easy to integrate:** no need to change to your feed management program, making it easy to incorporate into your existing operations.
- **Supports milk production:** Helps contribute to milk yield and milk solid yield.

How biosolutions works

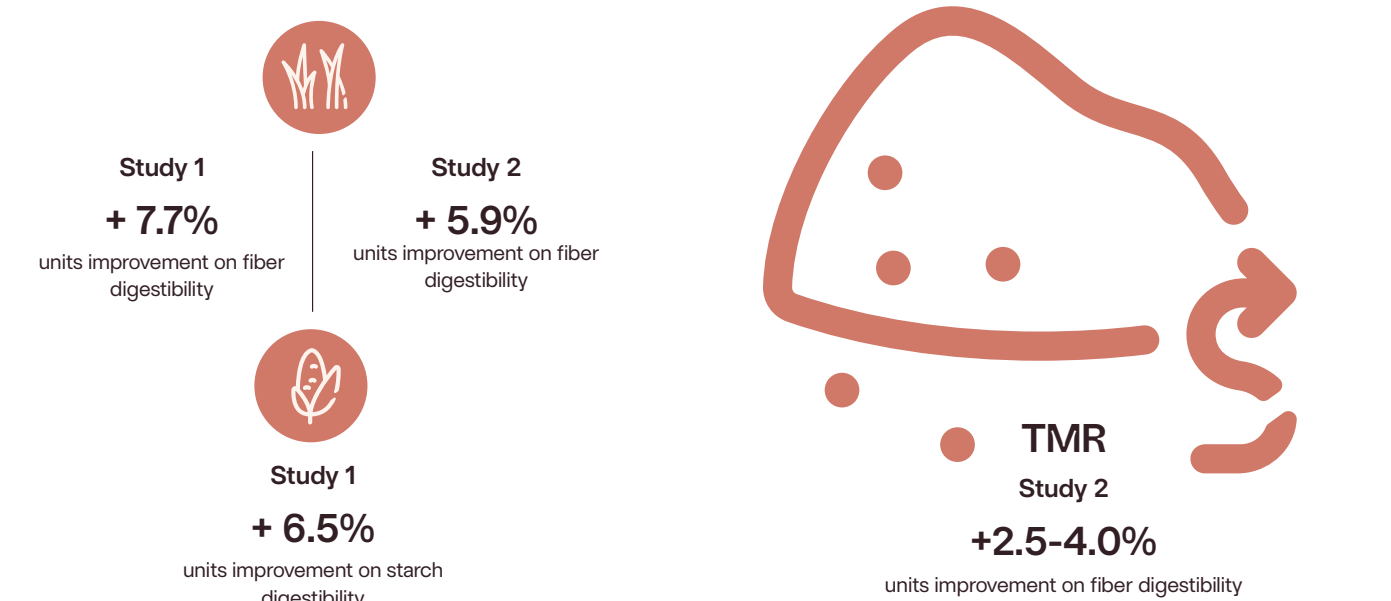
Probiotics like Bovacillus™ offer various benefits through several well-defined modes of action:

Interaction with other microbes

Bacillus-based probiotics have been shown to interact with other microorganisms directly or by competing for nutrients and space within the gut. Incorporating Bovacillus™ probiotic into your toolbox can help support your herd as they face various challenges in their environment.

Interaction with feed nutrients

In recent *in vitro* and *in vivo* digestibility trials, Bovacillus™ probiotic was shown to improve fiber and starch degradability of different forages and complete diets. It also enhanced fiber digestibility in TMR samples from commercial dairies by 2.5–4.0%.



Study 1. Pan et al. (2022)

Study 2. Cappellozza et al. (2023)



Product specifications



Composition:
Viable spores of two proprietary strains of *Bacillus subtilis* and *Bacillus licheniformis* mixed in calcium carbonate or maltodextrin.

Form:
Powder; concentration of active ingredients minimum 3.2 x 10⁹ CFU*/gram.
**Colony forming units*

Packaging:
1, 10 and 20 kg bags (availability and sizes may vary in your country).

Storage:
Store in a dry and cool area to maintain stability during shelf-life. Keep the product in the original tightly closed packaging except when dispensing the product.

Shelf life:
24 months from the date of manufacturing when stored as specified.

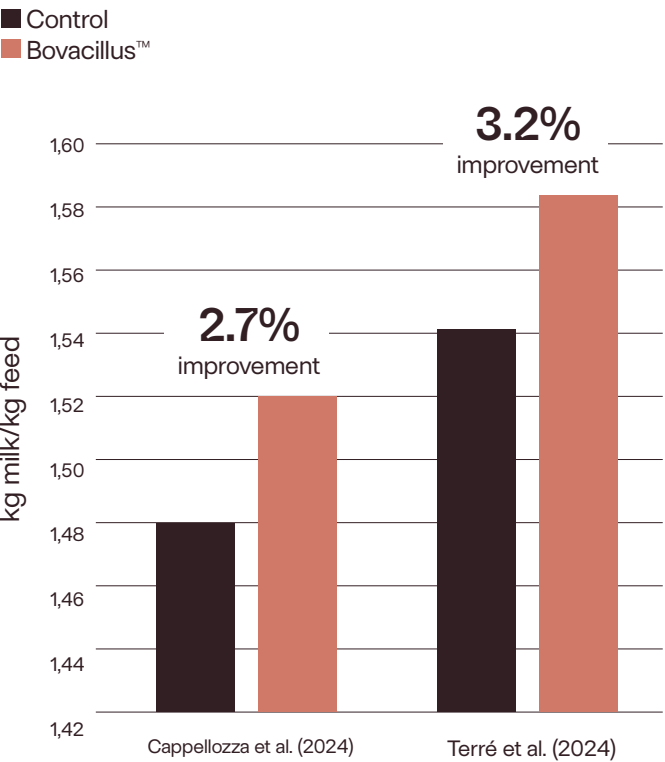
Directions for use:
Apply on all types of feed following the recommended dosage:

Dairy Cattle:	3.0 - 4.0 g/head/day
Young cattle, steer and heifer:	1.0 - 1.5 g/head/day
Calves:	0.5 - 1.0 g/head/day

For more information, please contact your local representative or reach us at [novonesis.com](https://www.novonesis.com)

Your results

Scientific trials confirm these benefits, showing a 2.7–9.7% improvement in feed efficiency when Bovacillus™ was added at 3 g/head per day. This means lactating cows fed Bovacillus™ used feed more efficiently and produced more milk per kg of feed consumed.



Novonesis is leading the era of biosolutions.

By leveraging the power of microbiology with science, we transform the way the world produces, consumes and lives. In more than 30 industries around the world, our biosolutions are already creating value for thousands of customers and benefiting the planet. Our 10,000 people worldwide work closely with our partners and customers to transform business with biology. Let's better our world with biology.

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