

Ecobiol®—A new generation of probiotic performance

Quick outgrowth of spores to active cells for
enhanced gut health

Ecobiol®



With the improved Ecobiol®, your animals will be healthier and perform better due to faster spore outgrowth and higher active cell numbers.

THE NEW GOLD STANDARD IN PROBIOTICS

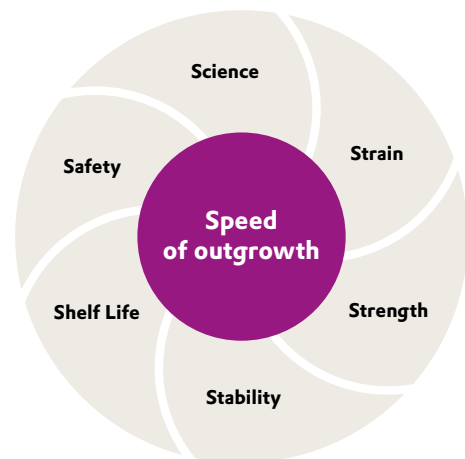
The probiotic market is crowded with products offering various promises, yet clear guidance is rare. Key factors like strain specificity, stability, shelf life, and safety are not always transparently communicated. Scientific evidence is crucial, but not all products are backed by solid data.

A key emerging factor in evaluating probiotics is the focus on metabolically active cells rather than spores. Recent research highlights outgrowth speed—the time for probiotic spores to outgrow and become active—as a critical characteristic for probiotic efficacy.

Faster outgrowth enables:

- Earlier colonization in the small intestine (duodenum and jejunum)
- Timely inhibition of pathogens such as *Salmonella spp.*, *Escherichia coli*

- Enhanced production of secondary metabolites that support gut health and immune modulation
- Improved and consistent efficacy across diverse feed compositions and animal production systems



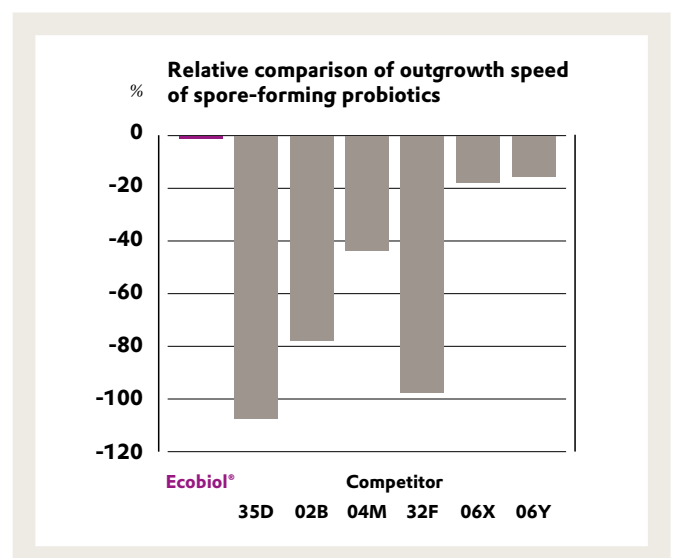
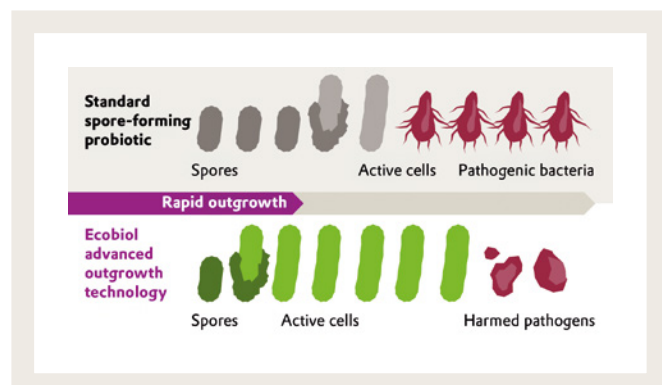
WHY ECOBIOL® WORKS BETTER—AND FASTER

Thanks to a breakthrough in fermentation technology and process optimization, Ecobiol® now features a significantly improved outgrowth profile, making it faster, more consistent, and more effective than ever before.

The improved Ecobiol® demonstrates an average of 46% faster outgrowth than other spore-forming probiotic products on the market. This makes Ecobiol® the preferred choice for increasing the number of active probiotic cells throughout the intestine.

The beneficial characteristics of a probiotic are meaningless if its spores don't rapidly outgrow into active cells within the animal.

46%
faster outgrowth
with Ecobiol®



TESTED. COMPARED. CONFIRMED.

The improved Ecobiol® has been validated through:

- *In vitro* outgrowth assays using realistic media (e.g., dFeed) that better simulate gut conditions
- Side-by-side comparisons with previous batches and competitors
- *In vivo* trials showing improved gut colonization and pathogen suppression

Ecobiol® is fully compatible with your existing systems and feed programs.

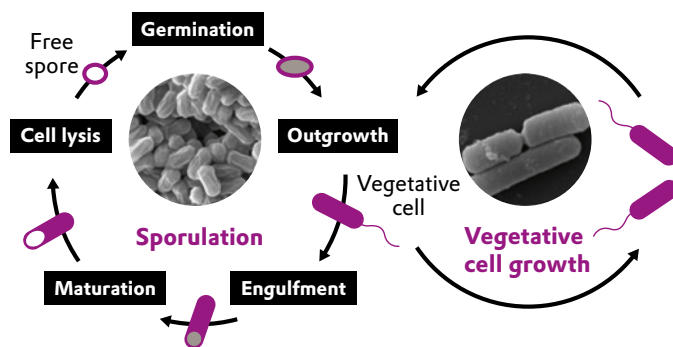
- Compatible with anticoccidiostats, AGPs and other feed additives (e.g., organic acids, phytogenics, prebiotics)
- No spore loss during feed production or storage
- Rapid outgrowth under all dietary conditions
- Ideal for automated dosing and conveying
- Available for different applications and dosages

The Ecobiol® strain itself has not changed. All previously known modes of action remain intact or have been further enhanced, including:

- Enzyme activity
- Immune modulation
- Inhibition of *E. coli*, *Salmonella* spp., *Listeria monocytogenes* spp. by
 - Quorum quenching
 - Competitive exclusion
 - Production of secondary metabolites

Why choose Ecobiol® from Evonik?

- Quick and consistent spore outgrowth
- Inhibits the growth of pathogenic bacteria
- No spore loss during feed production or storage



VEGETATIVE CELLS: DELIVERING PROBIOTIC BENEFITS

Once spores germinate and outgrow, they become vegetative cells—the active form that delivers health benefits in the gut. Their key functions include:

- Inhibiting the growth of harmful pathogens
- Reducing *E. coli* biofilm formation
- Producing beneficial compounds such as lactic acid and enzymes
- Disrupting bacterial communication through quorum quenching

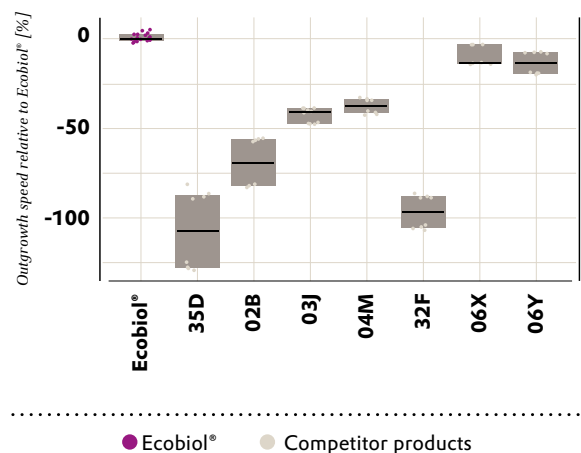
PROVEN PERFORMANCE: ANYWHERE, ANYTIME

Feed composition varies widely across regions and production systems, affecting the availability of germinants and the gut environment. On a Standard Indian Corn-Soy based diet, Ecobiol® consistently shows rapid germination and outgrowth, outperforming competitors. Similar results have been observed across all eight globally tested feed compositions.

The strong dependency on diet composition of competitor products, leading to variable outgrowth speeds and inconsistent performance. These findings highlight the importance of understanding the specific dietary conditions under which such products are effective—and where they may fall short.

Its rapid activation, regardless of feed origin, underscores Ecobiol®'s reliability and effectiveness across varied nutritional contexts—making it a trusted solution for consistent probiotic performance worldwide.

Outgrowth in Indian Feed (Starter + Finisher)



EVONIK OPERATIONS GMBH
Animal Nutrition Business Line

evonik.click/animalnutrition

Learn more about Ecobiol®

evonik.click/ecobiol



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