

ENTEROSURE®

A multi-strain probiotic for layers

ENTEROSURE® is a proprietary multi-strain probiotic blend with a unique mode of action. The blend of *Bacillus* strains in ENTEROSURE is proven to inhibit pathogen growth in the gastrointestinal tract while promoting the growth of beneficial bacteria. The result is a healthier hen that lays a higher quality egg.



Why intestinal health?

Gut health is directly and indirectly connected to overall animal wellbeing. Pathogenic bacteria in the gut can damage the intestinal lining allowing pathogens to enter the host, resulting in inflammation and inefficient nutrient absorption.

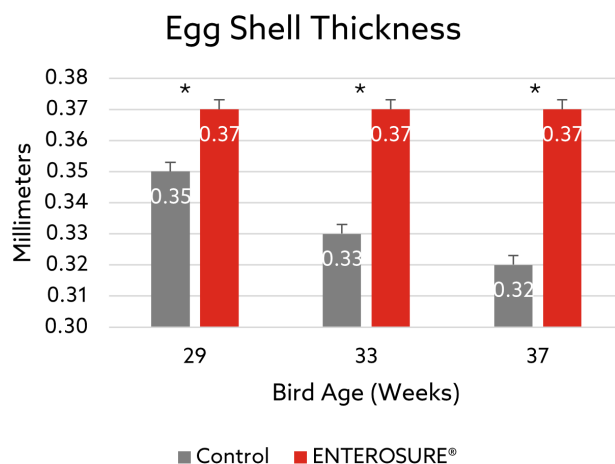
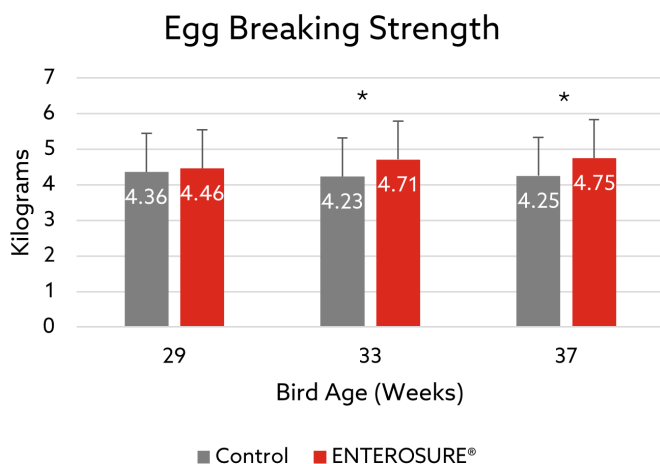
By inhibiting the growth of pathogenic bacteria, the *Bacillus* strains in ENTEROSURE help maintain a healthy microbial balance in the digestive tract.

ENTEROSURE key features:

- Contains a blend of three proprietary *Bacillus* strains – PB6, G3, and FxA – that is proven to inhibit the growth of pathogens including *Clostridium spp.*, *Escherichia coli*, and *Salmonella*¹
- Heat stable during pelleting
- Compatible with a wide range of feed ingredients, including vitamin/mineral premixes, organic acids, and most antibiotics

Egg Quality

In a 12-week feeding trial, a total of twenty (20) three-week-old 144 Hy-Line® Brown (Hy-Line International, West Des Moines, IA) laying hens were randomly allocated to one of two dietary treatments: a control diet and the treatment diet that contained ENTEROSURE. The eggs from the ENTEROSURE treatment group exhibited significantly higher egg breaking strength and shell thickness.²



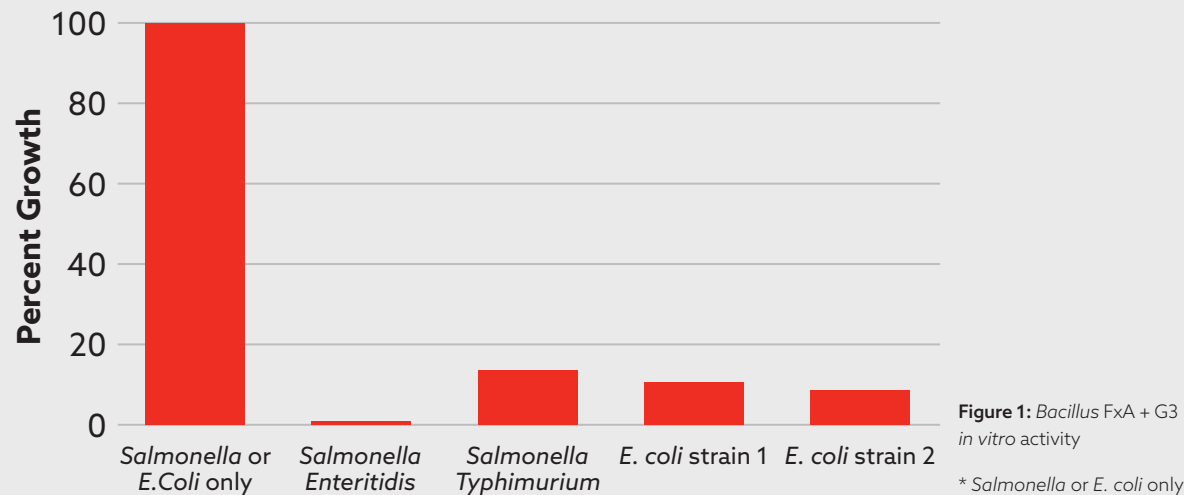
*Indicates significant difference compared to control, P<0.05



PATHOGEN INHIBITION

The proprietary blend of probiotic *Bacillus* strains in ENTEROSURE secrete antimicrobial metabolites that inhibit the growth of specific pathogenic bacteria such as *E. coli*, *Clostridium spp.*, and *Salmonella*. These antimicrobial proteins disrupt the membrane of bacteria, ultimately killing the pathogenic bacteria without harming the beneficial gut microflora.

Percent Growth of *Salmonella* & *E. coli* when incubated with *Bacillus* FxA + G3*



MICROBIOME IMPACT

ENTEROSURE promoted a healthy gut microbiome by increasing the beneficial lactobacilli and bifidobacteria populations and reduced the level of *Clostridia*.³

Treatment Groups			
	Control	ENTEROSURE®	SEM
Lactobacilli	5.93	6.48	0.123
Bifidobacteria	5.72 ^a	6.31 ^b	0.13
Enterococci	4.75	4.63	0.146
Clostridia	5.6	5.18	0.188

Values are the mean of 6 replicates per treatment SEM = Pooled standard error of the mean (a-b) Means with different superscripts within the same column differ significantly, P<0.05

** Coliforms and *Escherichia coli* were not detected

References:

- Antibacterial Spectrum of *Bacillus subtilis* PB6 Against Enteric Pathogenic Bacteria in Animals, WP-14-00076.
- Oketch, E. O., Yu, M., Hong, J. S., Chaturanga, N. C., Seo, E., Lee, H., Hermes, R. G., Smeets, N., Taechavasonyoo, A., Kirwan, S., Rodriguez-Sanchez, R., & Heo, J. M. (2024). Laying hen responses to multi-strain *Bacillus*-based probiotic supplementation from 25 to 37 weeks of age. *Animal Bioscience*, 37(8), 1418-1427. <https://doi.org/10.5713/ab.23.0495>
- Tajudeen, H., Ha, S. H., Hosseindoust, A., Mun, J. Y., Park, S., Park, S., Choi, P., Hermes, R., Taechavasonyoo, A., Rodriguez, R., & Kim, J. (2024). Effect of dietary inclusion of *Bacillus*-based probiotics on performance, egg quality, and the faecal microbiota of laying hen. *Animal Bioscience*, 37(4), 689-696. <https://doi.org/10.5713/ab.23.0299>



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