

Symphiome™

Microbiome managed precisely

Delivering overall harmony
to the bird microbiome



dsm-firmenich 

Orchestrated gut performance for your birds

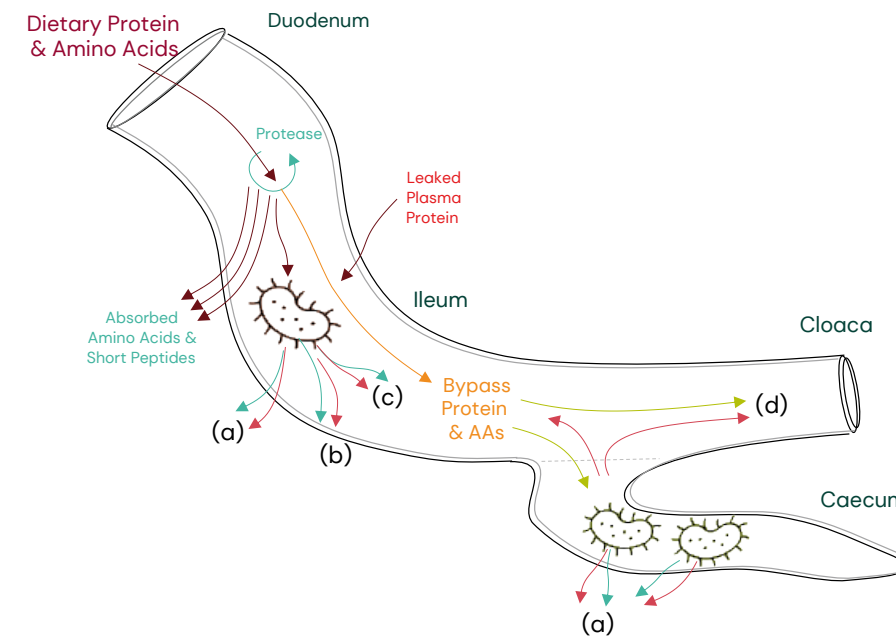
The revolutionary change in microbiome science is allowing us to better comprehend the impact of the microbiome on bird health and welfare, as well as the environment.

Meet Symphiome™ – a transformational new approach to optimise the poultry gastrointestinal health. Symphiome™ focuses on the microbiome as a whole and modulates the type and quantity of metabolites the microbiome produces. Just as a conductor directs the performance of an orchestra, Symphiome™ directs the metabolic function of the microbiome, to bring overall harmony to the gut.

Being the **first-of-its-kind Precision Biotic**, Symphiome™ optimises your birds' resilience to enteric stress, aids in nutrient utilization, improves welfare, and reduces emissions.



Harmonizing how the gut microbiome metabolizes protein has a major impact on the bird



- Microbial metabolites can:
- (a) Be absorbed to affect the bird's own growth, metabolism, and immunity
 - (b) Interact with the epithelial layer to affect barrier integrity and leakage
 - (c) Modify the luminal environment to promote or suppress pathogens
 - (d) Be excreted to the environment to affect the litter and emissions profile

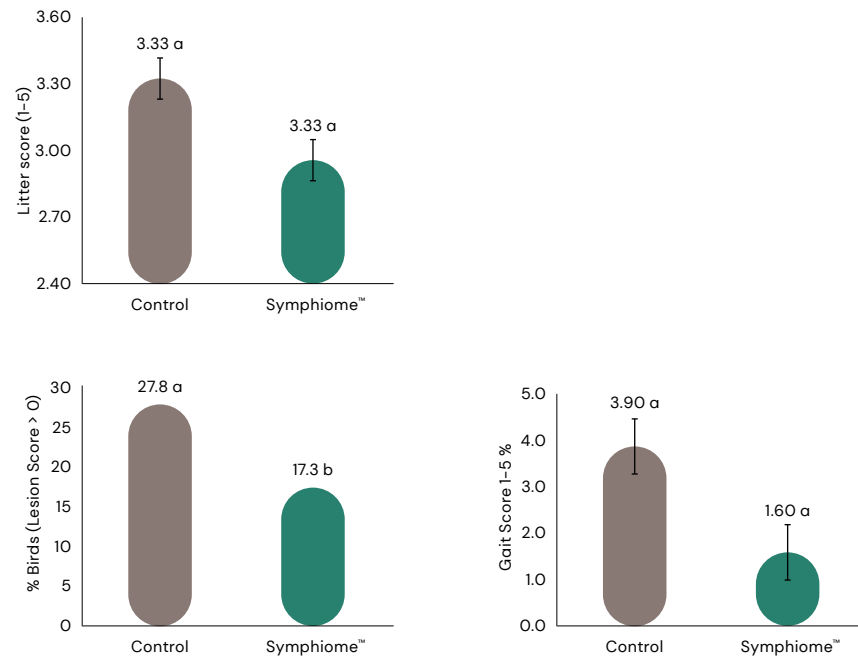
Just like its host bird, the microbiome exhibits its own metabolism. How the microbiome metabolizes protein influences host health, performance, welfare, and sustainability via microbial metabolites.

Beneficial Microbiome Protein Metabolism	<p>Assimilation Pathways to:</p> <ul style="list-style-type: none"> • Branched & short-chain fatty acids • Polyamines • Other amino acids 	<ul style="list-style-type: none"> • Improve performance^(1,3,4) • Stimulate immune function⁽⁵⁾ & homeostasis⁽¹⁾ • Control inflammation⁽³⁾
Undesirable Microbiome Protein Metabolism	<p>Putrefactive pathways to:</p> <ul style="list-style-type: none"> • NH₃ / NH₄⁺, H₂S radicals, and reactive sulfur • Uric acid • Skatole & other indoles 	<ul style="list-style-type: none"> • Increase luminal pH and feed pathogens⁽¹⁾ • Cause epithelial damage^(6,7) • Reduce energy metabolism⁽⁸⁾ and performance • Cause undesirable litter & odor emissions⁽⁹⁾

Symphio™ supplementation improves welfare and environmental parameters in broiler chickens

Study Design:

- **Breed:** Ross 308, duration 35 days
- **Treatments:**
 - Negative Control (NC)
 - NC + Symphio™ 0,9kg/MT

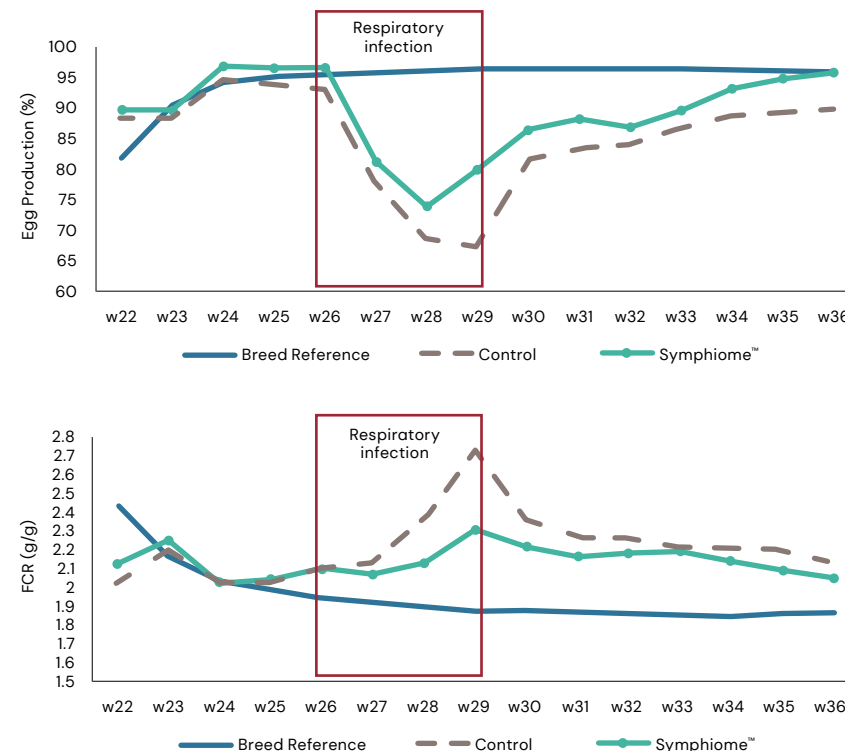


Symphio™ improved the welfare of the flock by reducing the footpad lesion score, improving mobility and improving the litter conditions

Symphio™ allowed for a quicker recovery from a natural outbreak of disease in laying hens

Study Design:

- **Breed:** 1100, 20 wks old Bovans white, from 22 to 40 weeks of age
- **Treatments:**
 - Control (customer standard diet)
 - Control + Symphio™ 0,9 kg/MT
- **Observations:**
 - Week 26: Natural outbreak of a respiratory infection



Symphio™ kept the flock closer to the breeder standard in adverse conditions for egg production and FCR.

A new approach to optimising gut health in poultry production

Balancing the profitability alongside the health and welfare needs of a flock is particularly challenging for poultry producers, while also remaining committed to responsible practices. This has highlighted the importance of gastrointestinal health as a key factor to enhance productivity and sustainability in poultry production.

To meet this challenge, dsm-firmenich has turned to recent advances in microbiome science, metagenomics and metabolomics to develop an innovative Precision Biotic that works with the bird's microbiome to direct the metabolites for optimal productivity.

The result is Symphio™ – a pioneering innovation based on an in-depth understanding of how the metabolic functions of the gut microbiome influence animal biology and the environment.

By modulating the type and quantity of metabolites produced, Symphio™ helps to conduct a metabolic symphony in the gut.

Symphio™	A Singular Mode of Action	Drives Value	That Relates to You
<p>Symphio™ increases metabolic functions intrinsic to the bird's microbiome that detoxify unabsorbed amino acids and leaked host protein independent of the microbiota composition</p>		Optimizes Resilience to Enteric Stress By ameliorating the impact of dysbiosis due to enteric opportunistic microorganisms	<ul style="list-style-type: none"> • AGP Removal & Antibacterial Reduction • Coccidiosis Management • Food safety, Salmonella
		Aids Nutrient Utilization to recover lost bird performance	<ul style="list-style-type: none"> • High crude-protein • Lower quality protein Ingredients
		Improves welfare by improving litter and reducing dermatitis	<ul style="list-style-type: none"> • Poor litter and air quality • Dermatitis
		Reduces Emissions for environmental safety and responsibility	Exclusive in layer birds: <ul style="list-style-type: none"> • Longer productive life • A more sustainable and profitable egg production • Environmental safety

Symphiome™

Conducting the microbiome orchestra



When it comes to optimal gut health, the microbiome should function like an orchestra playing in perfect harmony.

Conducting this orchestra is Symphiome™, a unique first-of-its-kind Precision Biotic. Symphiome™ unique mode of action increases metabolic functions intrinsic to the bird's microbiome that detoxify unabsorbed amino acids and leaked host protein independent of the microbiota composition. Symphiome™ improves resilience to enteric stress, aids in nutrient utilization, improves welfare, and reduces emissions.

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Symphiome™

Science-led and purpose-driven

At dsm-firmenich, we have always remained committed to providing our customers with intelligently designed nutritional solutions in their quest for profitable and sustainable poultry production.

Through its innovative mode of action that harnesses the untapped potential of the microbiome, Symphiome™ elevates gastrointestinal functionality in birds to improve productivity consistently across the whole flock. With Symphiome™, we make it possible for you to optimise your birds' health, welfare and growth performance, and at the same time lower your environmental footprint.

Start transforming your poultry production with Symphiome™.
Visit dsm.com/symphiome

Symphiome™ – Microbiome managed precisely

If not us, who? If not now, when?
We make it possible



We bring progress to life



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