

Intelligent Nutrition for Protein Producers: Science, Insight and Inspiration to Grow Your Business

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Challenges in the Poultry Industry

Food safety

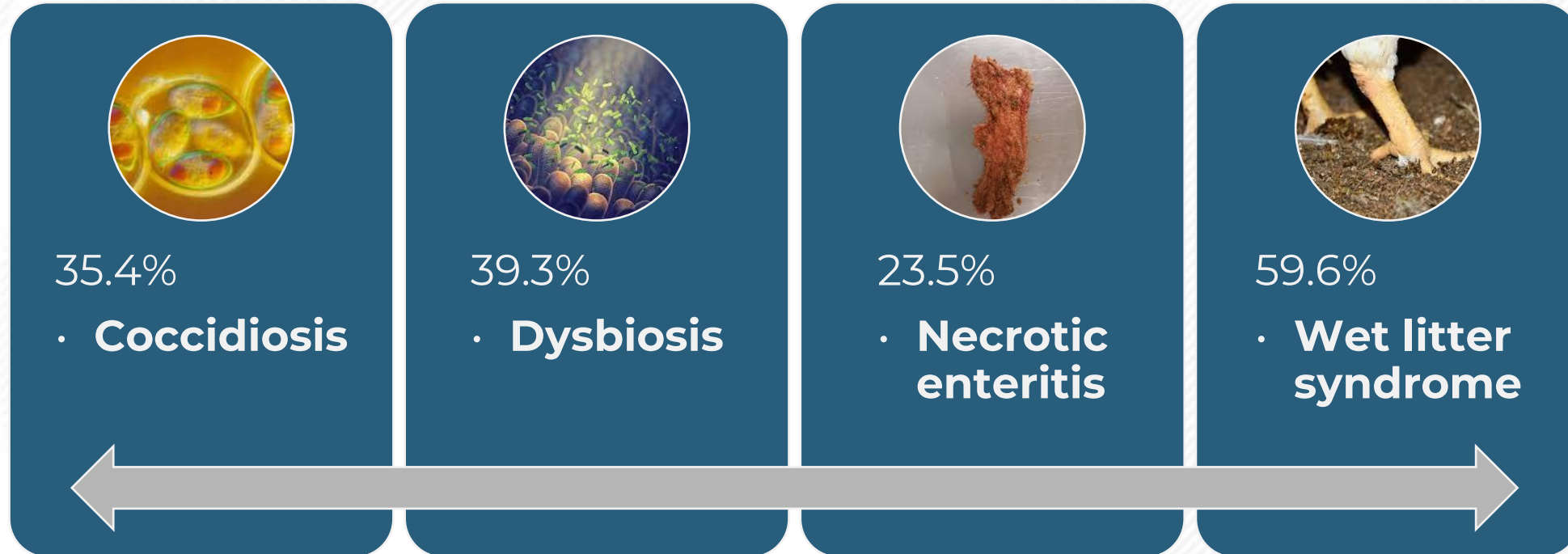
Antibiotic resistance and antibiotic free production

Poultry welfare

Global trade of poultry products – production costs

Emergence and re-emergence of poultry diseases

Prevalence of gut health disorders in broiler chickens in Europe.



In other regions of the world, the prevalence is most probably similar.

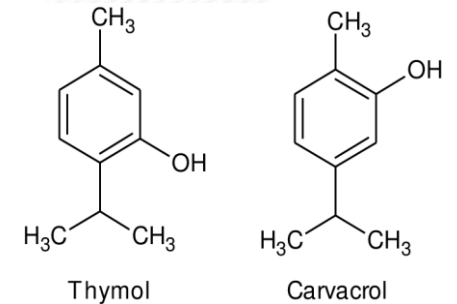
Feed Solution

NEXT ENHANCE[®] **150**

**An efficient solution to address
gut health challenges in poultry**

Combination of Thymol & Carvacrol Essential Oils

- Thymol and carvacrol are potent plant compounds derived from thyme and oregano
- Thymol and carvacrol are two of the most **stable** essential oil components. (*Michiels et al., 2008*)
- They **work synergistically**, enhancing each other's stability and effectiveness. (*Taibi et al., 2024*)
- Their aromatic-ring structure resembles the molecules of antioxidants.
- Both are lipophilic, enabling them to cross tissue membranes and interact with bacterial cell walls .
- Their activity is **not dependent on pH**, allowing them to function throughout the gastrointestinal tract.



Nature Identical vs Natural Essential Oils

Nature-Identical Essential Oil

- Consistent active content guaranteed in NEXT ENHANCE® 150 Feed Solution
- Stable supply and pricing, scalable for commercial production
- High purity with little to no contaminants
- Reliable efficacy - animals receive the same efficient dose every time

Natural Essential Oil

- High variability in active content
- Influenced by genetics, environment, crop conditions, harvest timing, and extraction method
- Market-dependent → pricing and supply can be volatile
- Purity may vary, with risk of co-extracted materials or contaminants (e.g., heavy metals, dioxins)
- More purification often required → higher cost

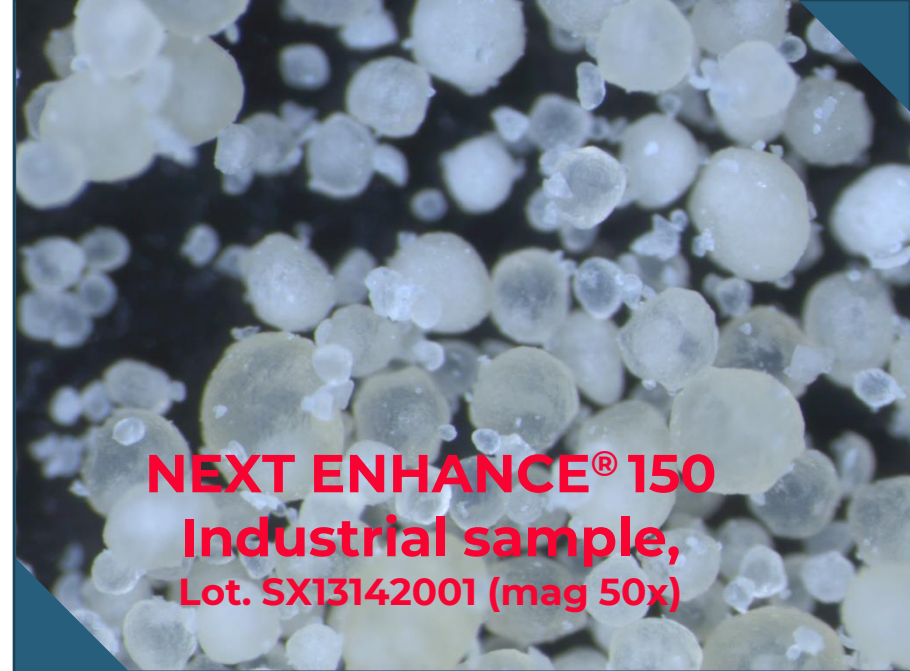
NEXT ENHANCE® 150 Feed Solution delivers high concentration of active ingredients with unique microencapsulation



Minimum 50% thymol + carvacrol concentrated in each particle



Fully encapsulated by mono and di and tri glycerides of fatty acids



NEXT ENHANCE® 150
Industrial sample,
Lot. SX13142001 (mag 50x)

- Observation through optical stereoscope Leica M125.
- Use a high-quality silica for a uniform product
- Provides very round particles
- Makes for a very flowable product

Advanced Technology

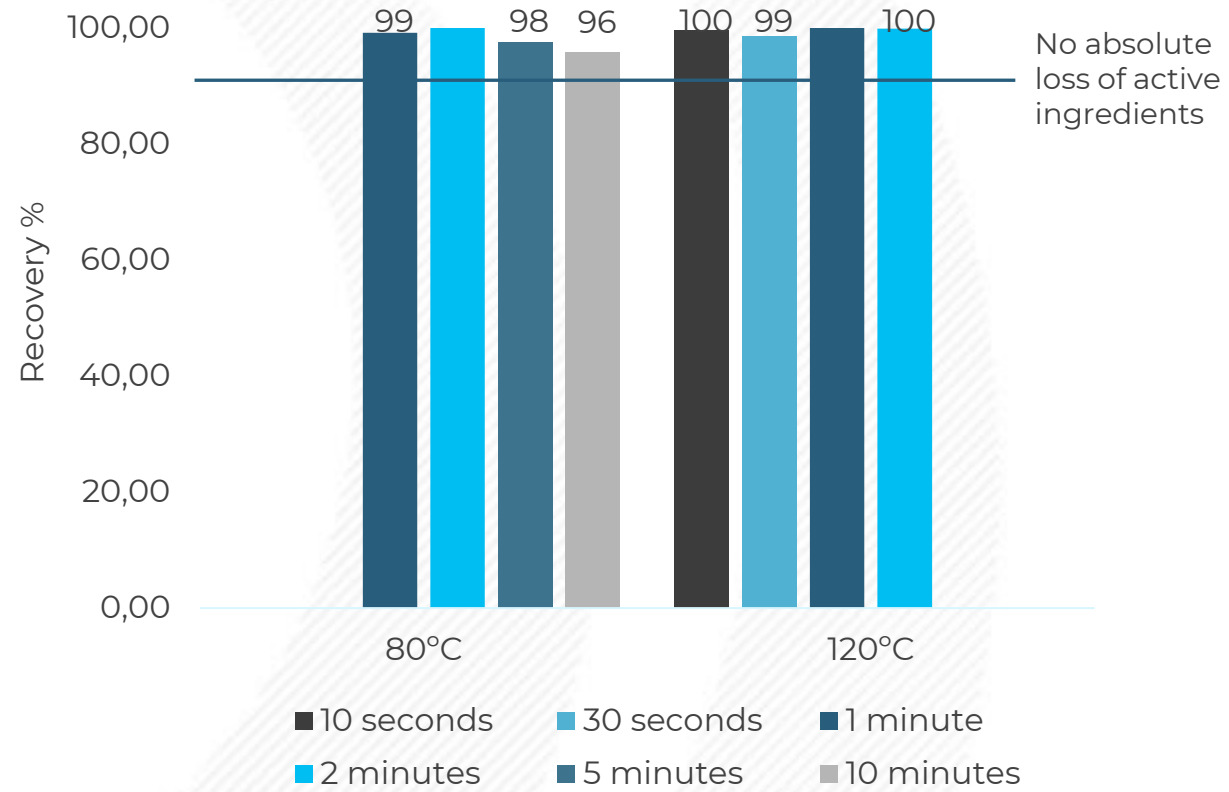
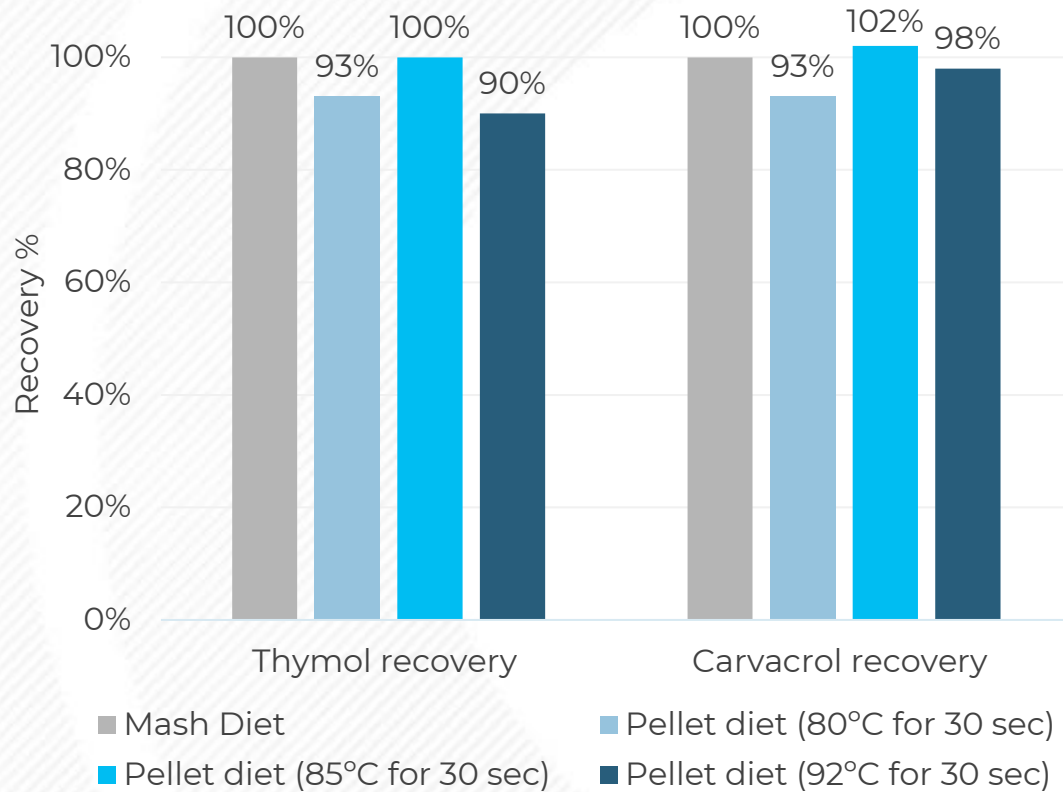
- Liquid mixture of thymol and carvacrol (nature-identical essential oils) is sprayed over a fluid bed of porous silica particles (SiO_2), loading the oils onto the silica carrier.
- A coating agent made of saturated fat is sprayed over the oil-loaded silica particles, forming a protective layer that encapsulates the oils.



Physical Properties

- Uniformity of actives in each particle
- Homogenous particle size due to the carrier
- Excellent flowability
- Non dusty
- Heat stable
- Easy to handle, homogeneity in premix and feed and stable

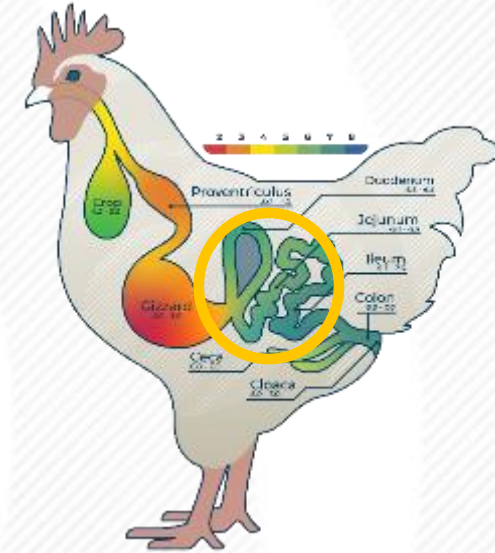
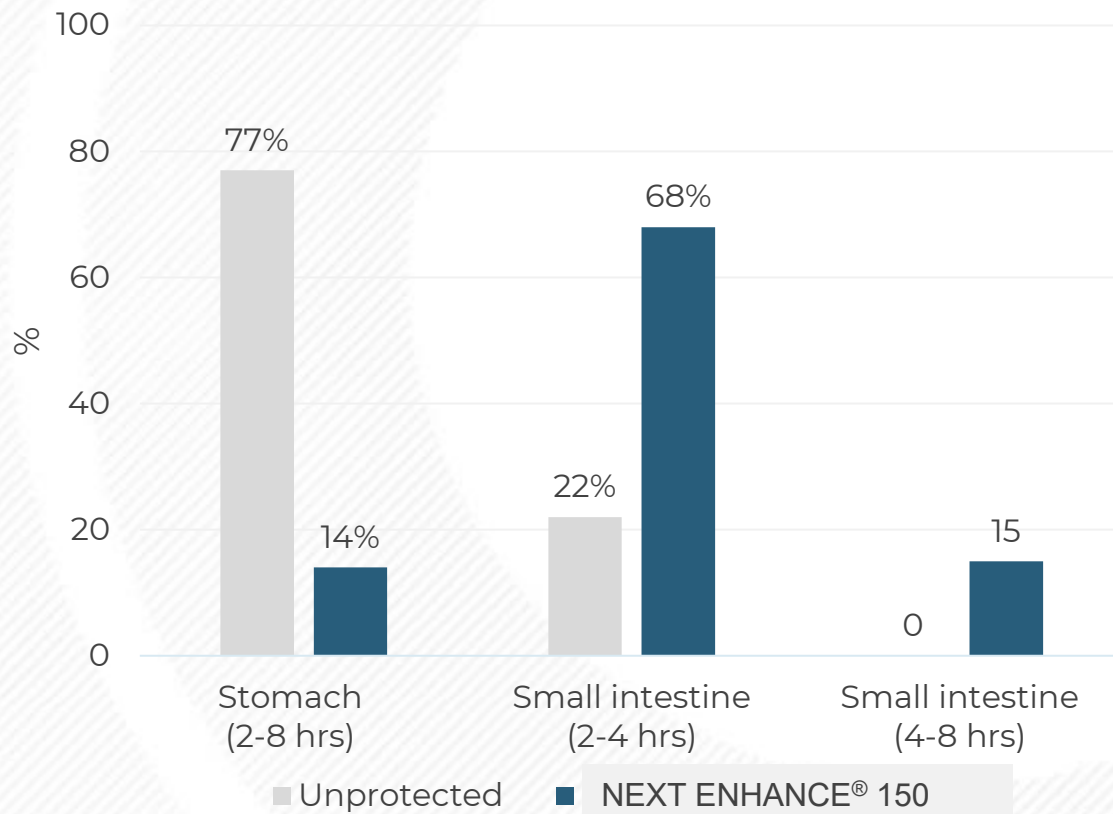
Stability under Pelleting Conditions



NEXT ENHANCE® 150 Feed Solution demonstrates excellent stability during pelleting maintaining its active compounds when processed in animal diets.

Releases Actives Where They Matter Most

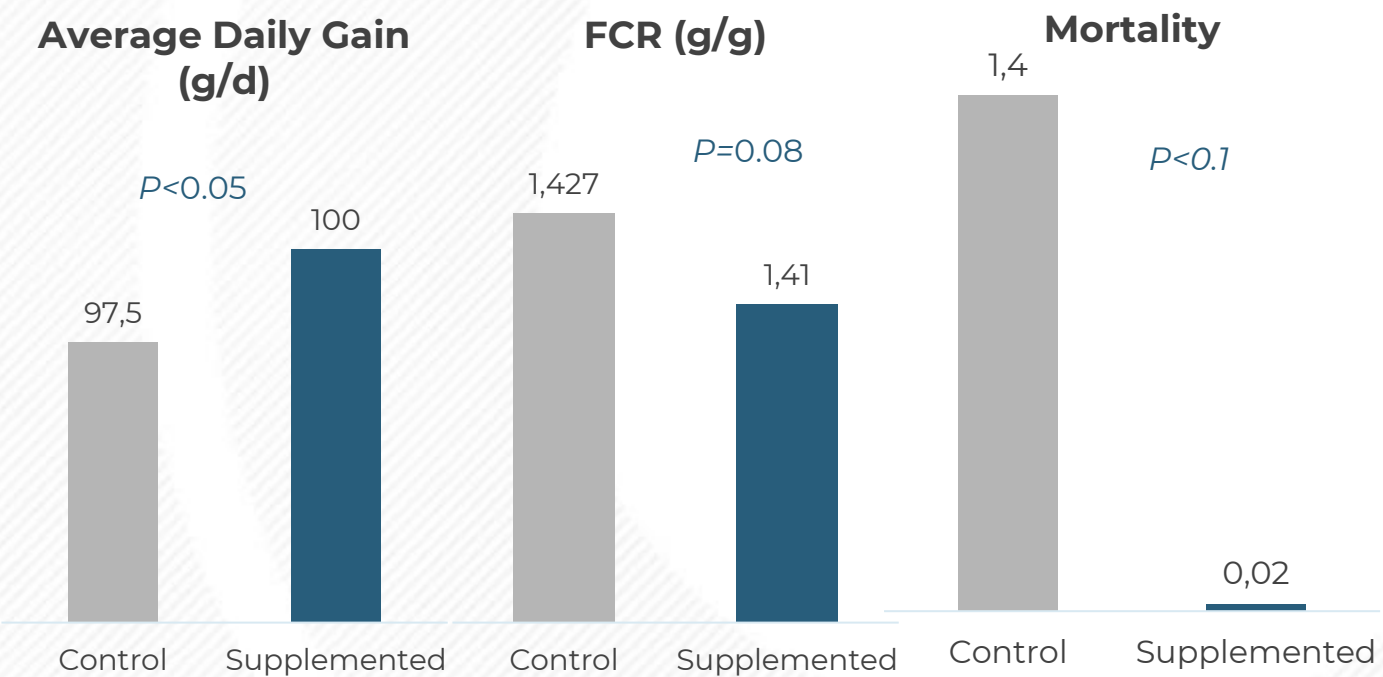
Release of Thymol and Carvacrol – Targeted intestinal release vs stomach loss



Results from three studies using a modified flow-through cell system simulating the stomach and small intestine show that approximately 70% of the actives are delivered to the intestine at the relevant pathogen's site of action.

The benefits of protected thymol and carvacrol under a chemical-ionophore coccidiostat program on broiler performance

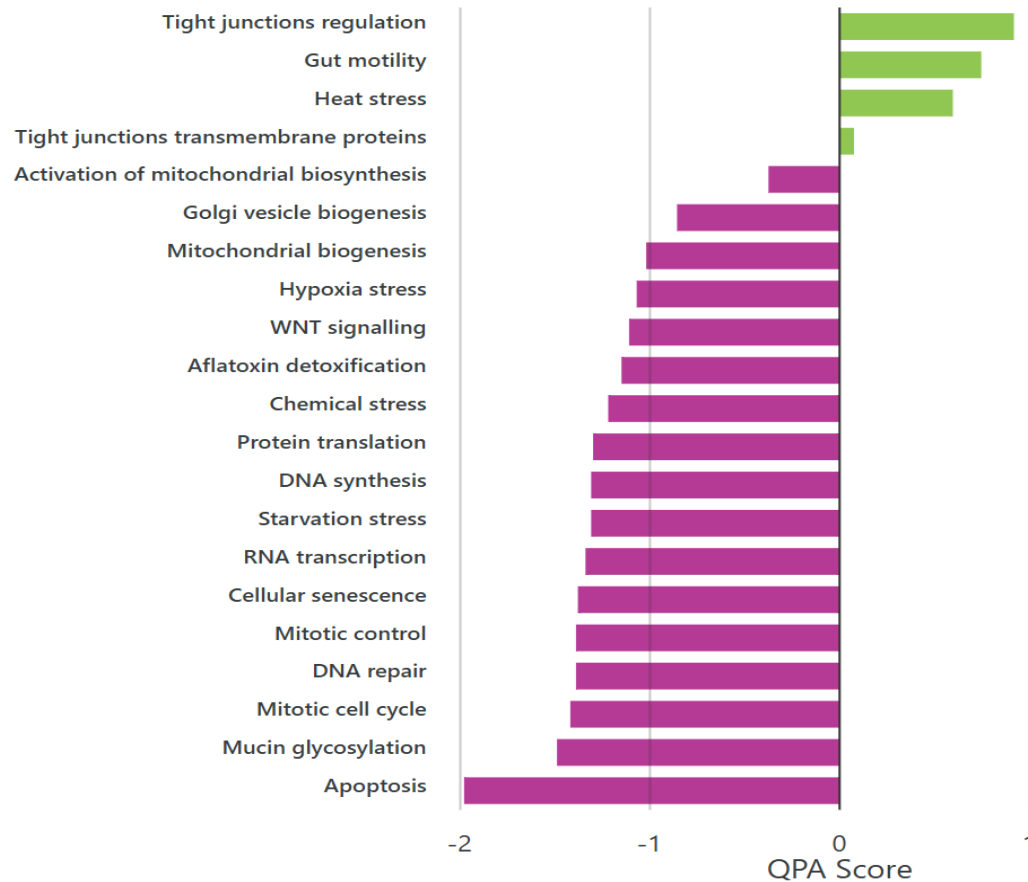
GROWER PERFORMANCE (D14-D28)



Experimental groups:

- Control: Narasin+nicarbazine (Starter) + Salinomycin (Grower)
- Supplemented: Narasin+nicarbazine (Starter) + Salinomycin (Grower) + NEXT ENHANCE® 150 at 30 g/t of feed

Support for gut integrity – Gene expression



Trait gene expression in NEXT ENHANCE® 150 Feed Solution (30 g/MT) + coccidiostat supplemented birds vs coccidiostat supplemented birds

- Birds receiving NEXT ENHANCE® 150 Feed Solution showed higher expression of genes related to improved intestinal integrity, such as tight junction regulation and gut motility.
- Furthermore, they showed reduced expression of genes related to inflammation and cell death, such as DNA repair, chemical stress, and apoptosis.

Gut Integrity

Supported intestinal barrier function

Oxidative Stress Modulation

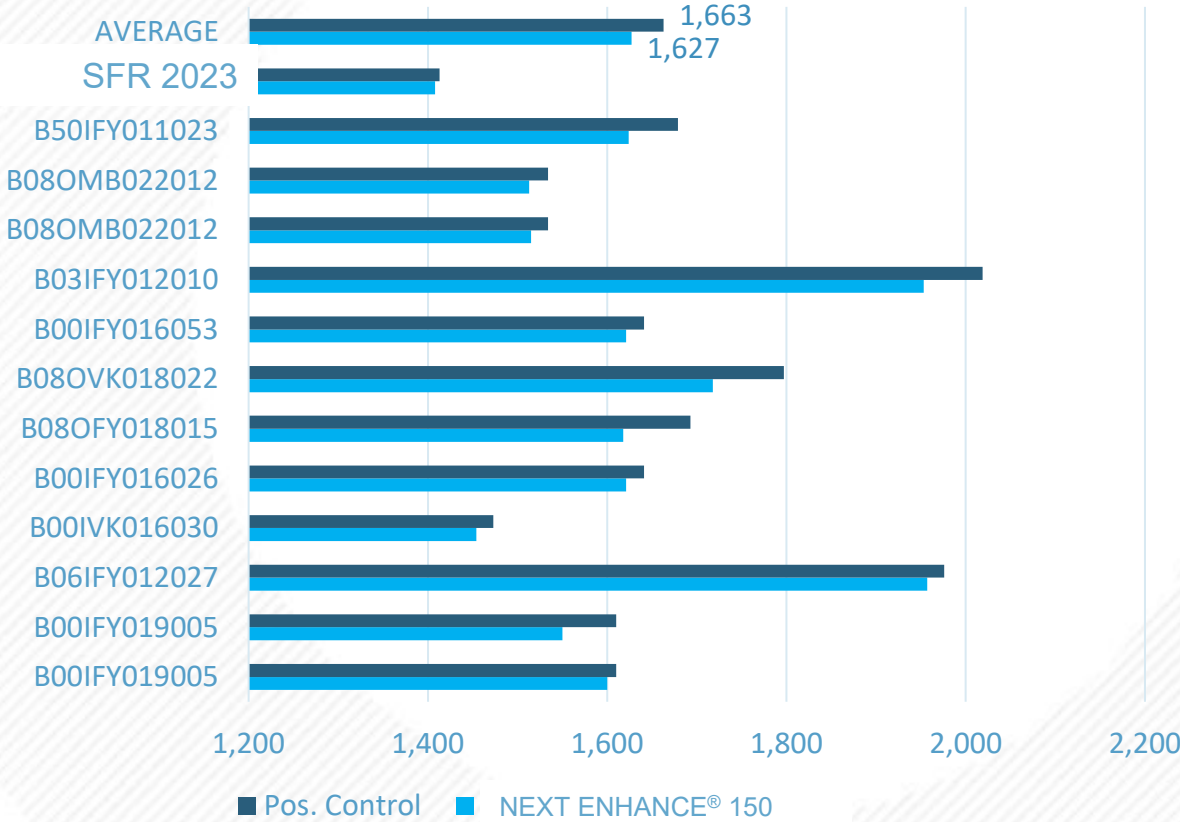
Helped to modulate inflammatory response pathways

Performance Support

Maintained productivity during coccidial challenge

Effect on FCR under Eimeria challenge

Results Summary



NEXT ENHANCE[®] 150 improves FCR under challenge with Eimeria and Eimeria+ CP

↓FCR 3.6 points ✓

Why NEXT ENHANCE® 150 Feed Solution?

- Potent thymol + carvacrol delivered where they matter
- Consistent stability across pelleting, storage & digestion
- Helps to reduce pathogen load, inflammation & oxidative stress
- Strengthens gut integrity & restores absorption
- Improves FCR & BWG under challenge
- Compatible with coccidiostats and feeding systems
- Easy to use and validated results



Merci Mamana **Salamat** terima kasih **Cảm ơn**
Obrigado **Welalin** **Gracias** 감사합니다 **Danke** Obrigado **Maake**
Grazie Asante Obrigado **Dziękuję** **Salamat** Vinaka Asante
Merci **Cảm ơn** Takk skal du ha **Kütos** धन्यवाद
Vinaka **THANK YOU** Obrigado
Kia Ora **Salamat** Mamana 谢谢
Matondo **Kütos** ありがとうございます Maake **Kia Ora**
terima kasih **Merci** ขอบคุณ **Obrigado** **Cảm ơn** **Salamat**
Dank Je Mamana **Matondo** Asante **Danke** Dank Je **Gracias**