Unleashing the power of plants

When we think of using plants in livestock production, we often think of plants such as corn, wheat, soybeans and many others. We look at those plants for their energy, protein or fiber components, but there is so much more to using plants in livestock production that expands beyond these basic ideas!

What about using plants to support animals during times of stress or to promote healthy digestive functions? Let's explore the category of phytotechnology and how phytogenic solutions can be embraced by the livestock industry.

The word phytogenic means 'derived from plants', and in this category, we have feed additive solutions that contain bioactive components derived from plants.

Examples of the types of plants used are: oregano, capsicum, cinnamon, etc. As feed additives, phytogenic compounds have the potential to impact physiological processes such as nutrient absorption or metabolism, to name just two examples. When used in the right combination and at the right dosage, phytogenic compounds are a powerful tool in supporting livestock to come closer to its genetic potential.

How do phytotechnologies work?

Animal nutritionists have focused on formulating diets that meet the animal's nutritional requirements at minimum cost; and in recent decades have realised that the gut serves as so much more than a digestive organ.

Furness et al. (2013) describes the gut as a sensory organ, which detects and processes 'messages' from its environment through receptors located on intestinal cells facing the gut lumen. Targeting these receptors through molecules supplied in the animal's diet can trigger systemic physiological responses that in turn affect metabolism, immunity, hormonal secretion, inflammation, etc. and, ultimately, animal performance.

Selko | Synerco

Improving performance for poultry producers

With its unique combination of oregano, clove, and cinnamon, Synerco™ is a proprietary phytogenic product to Trouw Nutrition Canada, and the first to be introduced into the phytotechnology portfolio. To confirm the benefits to producers Trouw Nutrition Canada investigated its effects in broiler chickens in a commercial research facility in British Columbia.

Testing took place over two flocks from October, 2022 to January, 2023 with more than 3,000 broiler birds. Animals were fed commercial diets not containing medically important antibiotics with or without Synerco in them.

When Synerco was fed through all phases it resulted in:

- **Increased d35 BW by 6.7% over CON (+137 g)**
- **Increased ADG by 6.8% over CON (+4.1 g/d)**
- **Improved FCR by 3.8% over CON**

Measure	CON	SYNERCO
Final live BW (kg)	2.04[a]	2.18[b]
ADG (g/d)	60.0[a]	64.1[b]
ADFI (g/bird/d)	90.1	91.9
FCR (kg/kg)	1.56[a]	1.50[b]
Mortality (%)	5.1	1.5

Values with different superscript differ at p<0.05

In this study the economic impact of feeding Synerco to broilers for the duration of the flock resulted in:

- **+6.7% in revenue vs. CON (+$0.31/bird)**
- **+18.8% in profit per bird vs. CON (+$0.24/bird)**
- **+$0.12/kg in profit per kilogram**

Measure	CON	SYNERCO
Feed costs ($/bird)	2.39	2.45
Revenue ($/bird)	4.65[b]	4.97[a]
Profit ($/bird)	1.28[b]	1.52[a]
Profit ($/kg)	0.55[c]	0.67[a]

Values with different superscript differ at p<0.05

The results of this test confirm that using Synerco in broiler production leads to improved animal performance and economic returns for the producer.

Ask your Trouw Nutrition Poultry Specialist how Synerco can be incorporated into your feeding program today!

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