

FRA[®] Butyrin Hybrid Dry

- » Inhibits gram-negative bacteria
- » Stimulates gut development
- » Active in entire GIT and via bloodstream
- » Non-smelling
- » Reduces mortality rate
- » Improves animal performance



GUT DEVELOPMENT

TARGET RELEASE

α -Monoglycerides

FRA[®]

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FRA[®] Butyrin Hybrid Dry



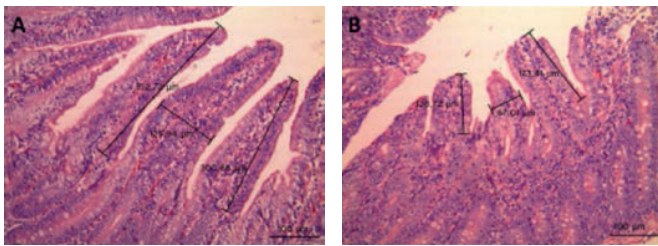
Data of this flyer are based on our current knowledge and experience. As many factors during and after application may affect the performance of our product, processors are responsible for carrying out their own tests and investigations. Certain statements may not be applicable in all geographical regions. Product associated claims may differ based upon government requirements.

The Challenge

One of the main issues in swine husbandry is efficient and sustainable animal production. Several factors such as raw material prices and increasing worldwide competition force farmers to optimize their production cycles.

Moreover, farmers have to deal with animal welfare regulation, restriction of antibiotic usage and prevalence of infectious diseases. To achieve efficient production, animal health is an important parameter and this is largely determined by gut health and the control of pathogenic pressure.

A healthy well-developed gut is needed for efficient nutrient uptake to achieve sufficient growth and efficient FCR. Due to a variety of stress factors such as pathogenic load, change of feed and social groups, especially in young animals the gut might be underdeveloped resulting in decreased digestion and immunity. As a result, pigs become highly susceptible to infectious diseases and (metabolic) disorders, leading to decreased performance, high mortalities and lower profitability.



Several stress factors, such as pathogen presence, can have a negative influence on gut health. This study clearly shows villi atrophy in pigs as a result of *E.coli* occurrence in the gut (picture B) compared to the control group (picture A) (Parra et al, 2011).

Trial results

	Control	FRA 1-monoglycerides of butyrate	
		3 kg/ton	6 kg/ton
Trial duration, days	37	37	37
Average initial piglet weight, kg	7.58	7.60	7.63
Average final piglet weight, kg	21.72	22.65	23.58
Average daily gain, g	382	407	431
FCR	1.87	1.78	1.74
Mortality (%)	12	4	1

This trial shows that adding FRA[®] 1-monoglycerides of butyrate (50% of FRA[®] Butyrin Hybrid) to diets of weaned piglets (n=73 per treatment group), results in improved piglet growth, end weight, FCR, and reduced mortality. (Italy, 2009)

The Solution

FRAmelco have developed FRA[®] Butyrin Hybrid: a specific formula containing 1-monoglycerides, di- and triglycerides of butyrate, and carefully selected micro-ingredients. Feeding this product to piglets, pigs and sows, stimulates gut development, reduces health problems and improves animal performance.

» 1-Monoglycerides of butyrate

Extensive research shows that short chain 1-monoglycerides possess antibacterial and animal performance improving properties. FRA[®] Butyrin Hybrid contains 1-monoglycerides of butyrate to inhibit gram-negative pathogenic bacteria. As a result of the unique mode of action, 1-monoglycerides are active in the entire gastrointestinal tract and blood stream. Pathogens do not develop resistance against 1-monoglycerides. It is suggested by literature that 1-monoglycerides may be used as an alternative for preventive use of antibiotics.

» Di- and triglycerides of butyrate

The effect of butyric acid on gut development is intensively studied. Butyric acid serves as energy source for the epithelium cells and stimulates villi growth and recovery, and length of the small intestines, resulting in more efficient uptake of nutrients and enhanced resistance against pathogens. Di- and triglycerides of butyrate are non-smelling and guarantee an effective target release of butyric acid in the gut.

» Micro-ingredients

Adding a small amount of carefully selected micro-ingredients induces a synergistic effect. These micro-ingredients contribute to the animal's resilience against invading pathogens.

Characteristics

- Available in dry form
- Heat stable up to 160 °C
- Neutral taste and odor
- Non corrosive
- Active in GIT and blood stream
- pH independent
- Available in 25 kg bag, 1000 kg big bag and bulk
- Produced in GMP+ certified facilities

Usage

Advised dosage for sows and growing pigs is as follows:

- 2-4 kg FRA[®] Butyrin Hybrid dry per ton of feed
- Higher dose levels are recommended for piglets
- It is recommended to contact your local FRAmelco technical sales manager to determine a farm specific dose level
- Use continuously
- Apply via feed

FRA[®]

Formulating Revolutionary Additives