

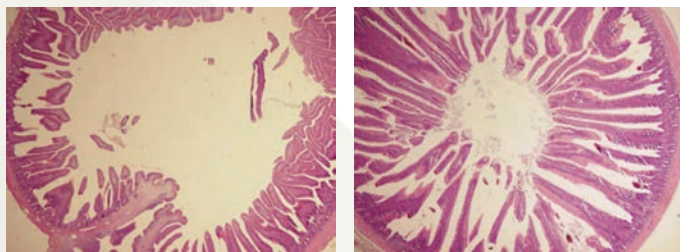
FRA[®] 2C4 Dry

- Efficient target release of butyrate «
- Inhibits gram-negative bacteria «
- Stimulates gut development «
- Active in entire GIT and via bloodstream «
- Non-smelling «
- Reduces mortality rate «
- Improves animal performance «

The Challenge

One of the main issues in poultry 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, animal density, climate condition and type of feed and housing, especially in young animals the gut might be underdeveloped resulting in decreased digestion and immunity. As a result, animals 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 the effect of dietary inclusion of butyric glycerides on gut development and villi height (right picture) compared to the control (left picture). (Prof. Halouzka, 2008)

The Solution

FRAmelco have developed FRA[®] 2C4: a specific formula containing 1-monoglycerides, di- and triglycerides of butyrate, and carefully selected micro-ingredients. Feeding this product to poultry, stimulates gut development, reduces health problems and improves animal performance.

» 1-monoglycerides of butyrate

Extensive research shows that short chain 1-monoglycerides possess anti-bacterial and animal performance improving properties. FRA[®] 2C4 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.

Trial results

	Control	1-monoglyceride butyrate 2kg/ton	1-monoglyceride butyrate 5kg/ton
Eggs produced	45.9 ^a	47.2 ^b	47.4 ^b
Average weight/egg	63.0	63.8	62.6
Total egg weight, g	2892.3 ^a	3011.3 ^b	2967.6 ^a
Feed intake, g	6160 ^a	5992 ^b	5880 ^c
Feed intake/egg weight	2.13 ^a	1.99 ^b	1.98 ^b
Shell weight, g	5.2	5.4	5.4
Shell thickness, mm	0.36	0.37	0.39

Superscripts indicate significant difference between values ($p < 0.05$).

This trial shows that adding FRA 1-monoglycerides of butyrate (50% of FRA[®] 2C4) to layer diets, results in improved reproduction performance and efficiency. (Italy, 2009)

Recommended usage

- » Advised dosage is 2-4 kg FRA[®] 2C4 dry per ton of feed
- » Contact your local FRAmelco technical sales manager to determine farm specific dose level
- » Use continuously
- » Apply via feed

Product characteristics

- » Available in dry form
- » Heat stable up to 160 °C
- » Neutral taste and odour
- » 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



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TARGET RELEASE



FRA[®]

Line Poultry

GUT DEVELOPMENT