# FRA® LAC34

» Active in entire GIT and via bloodstream

» Inhibits gram-negative bacteria and Clostridium

» Reduces mortality rate

» Improves animal performance



**IMPROVE PERFORMANCE** 

**REDUCE** MORTALITY



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## FRA® LAC34



### 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.

When animals are subject to stress factors such as animal density, climate condition, type of housing or change of feed, they are highly susceptible to infectious diseases and (metabolic) disorders.

These diseases can be caused by gram-negative pathogenic bacteria like E.coli and Salmonella. Additionally, severe problems caused by Clostridium are often observed. Antibiotics and acidifier programs are commonly used, however, not all pathogens can be targeted due to economic and/ or practical disadvantages.

Infection by Clostridium, E.coli and Salmonella may lead to decreased reproduction performance, eggshell quality, growth performance, highmortality rates and lower profitability.

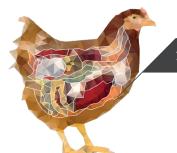
#### **Trial results**

Product	Clostridium perfringens (cfu/ml)
Positive control	35 x 10 <sup>4</sup>
Formic acid / lactic acid	10 x 10 <sup>2</sup>
Short chain 1-monoglycerides + lactic acid	2 x 10 <sup>1</sup>

Minimum inhibitory trial shows a synergistic effect between short chain 1-monoglycerides and lactic acid. Short chain 1-monoglycerides + lactic acid show much stronger effects against Clostridium compared to formic acid + lactic acid. (The Netherlands, 2010)

Field trial results show that supplementation of 1.5 kg FRA® LAC34 per ton of layer feed results in:

- Improved laying efficiency
- Improved laying performance, also in older laying hens
- · Improved eggshell strength



ACTIVE IN ENTIRE INTESTINAL TRACT AND BLOOD STREAM

#### The Solution

FRAmelco has developed FRA® LAC34: a specific formula containing short chain 1-monoglycerides, lactic acid, and carefully selected micro-ingredients. Feeding this product to poultry reduces health problems and improves animal performance.

#### » 1-Monoglycerides

Extensive research shows that short chain 1-monoglycerides possess antibacterial and animal performance improving properties. FRA® LAC34 contains 1-monoglycerides of short chain fatty acids 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.

#### » Lactic acid

Lactic acid is a natural substance known for its beneficial effects on different enzymatic processes, feed intake, and pathogen inhibiting properties. FRAmelco's studies have shown that a synergistic effect is reached when 1-monoglycerides are combined with lactic acid, especially when aiming at clostridium reduction.

#### » 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 and liquid form
- · Heat stable
- · 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, 25 kg can, 250 kg drum, 1000 kg IBC
- · Produced in GMP+ certified facilities

Advised dosage is as follows:

- 3 6 kg FRA® LAC34 Dry per ton of feed
- 1.5 3 kg FRA® LAC34 Liquid per 1000 liter water
- It is recommended to contact your local FRAmelco technical sales manager to determine a farm specific dose level
- Use continuously
- · Apply via feed or drinking water

