

Estar®

New Generation Butyrate Supplementation

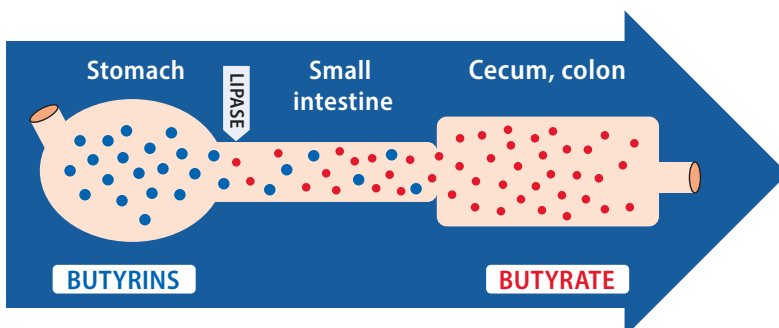
A healthy and functional digestive tract is essential to feed utilization, nutrient absorption, and immune function. Damage to the gut lining, reductions or shifts in resident microbial populations, and establishment of pathogenic bacteria can undermine these essential functions and lead to reduced performance and serious health challenges. Butyrate is a time-tested tool for supporting gut integrity and function, but supplemental sources vary widely in their ability to deliver butyric acid effectively.

The full potential of butyrate supplementation is only realized when adequate levels of butyric acid are available at target areas of the lower intestinal tract, delivered in a practical, concentrated, and economic form. Historically, there have been real challenges to meeting these goals.

- Straight butyric acid is corrosive, has a strong offensive odor, and is rapidly absorbed from the upper digestive tract.
- Calcium and sodium salts of butyric acid are water soluble, leading to substantial release and absorption in the foregut.
- Protected Ca and Na salts are inherently diluted by their fat matrix coating. Products in this class vary widely in butyrate concentration, which is inverse to the level of protection offered against upper-tract release.

Today's Solution: ESTAR Esterified Butyric Acid

Butyrins are covalently-bonded molecules of glycerol and butyrate. They act as a source of butyric acid, released by the action of pancreatic lipases in the lower intestinal tract. Butyrins are water-insoluble, extremely stable, and do not require coating to protect them from disassociation and absorption in the upper gut. Their enzymatic release ensures slow, extended delivery of active ingredient where it can do the most good.



Why Butyrate?

In addition to serving as a key energy source for intestinal cells, butyrate:

- ✓ Supports intestinal development and maintenance of gut health;
- ✓ Improves intestinal barrier function;
- ✓ Facilitates positive shifts in the intestinal biome and decreased pathogen colonization;
- ✓ Stimulates increased endogenous short chain fatty acid production;
- ✓ Beneficially modulates immune function, inflammation, and responses to oxidative stress; and,
- ✓ Aids in protein digestion.

Documented outcomes:

Increased live and carcass weights, improved feed efficiency, and enhanced carcass properties.

Bedford & Gong, 2018

Estar® TEB

Estar® TEB supplies butyric acid as esterified tributyrins, yielding 3 butyric acids and 1 glycerol per molecule;

Has a market-leading concentration of **54% butyric acid**, allowing for low inclusion rates;

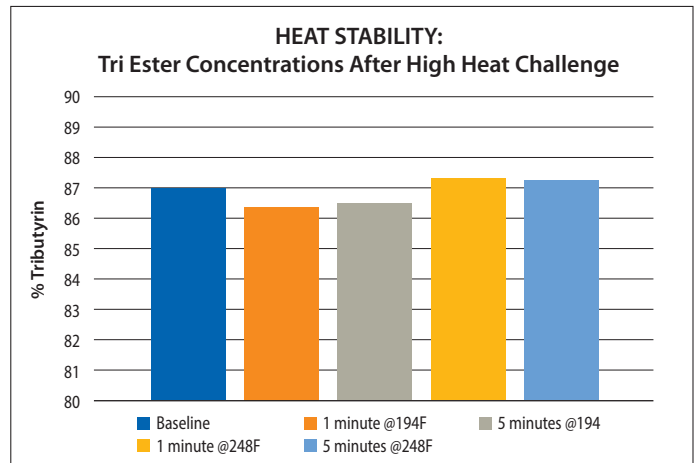
Ensures slow, targeted release of butyric acid and monobutyryns;

Delivers **95% of consumed butyrate in usable form to the intestinal tract**;

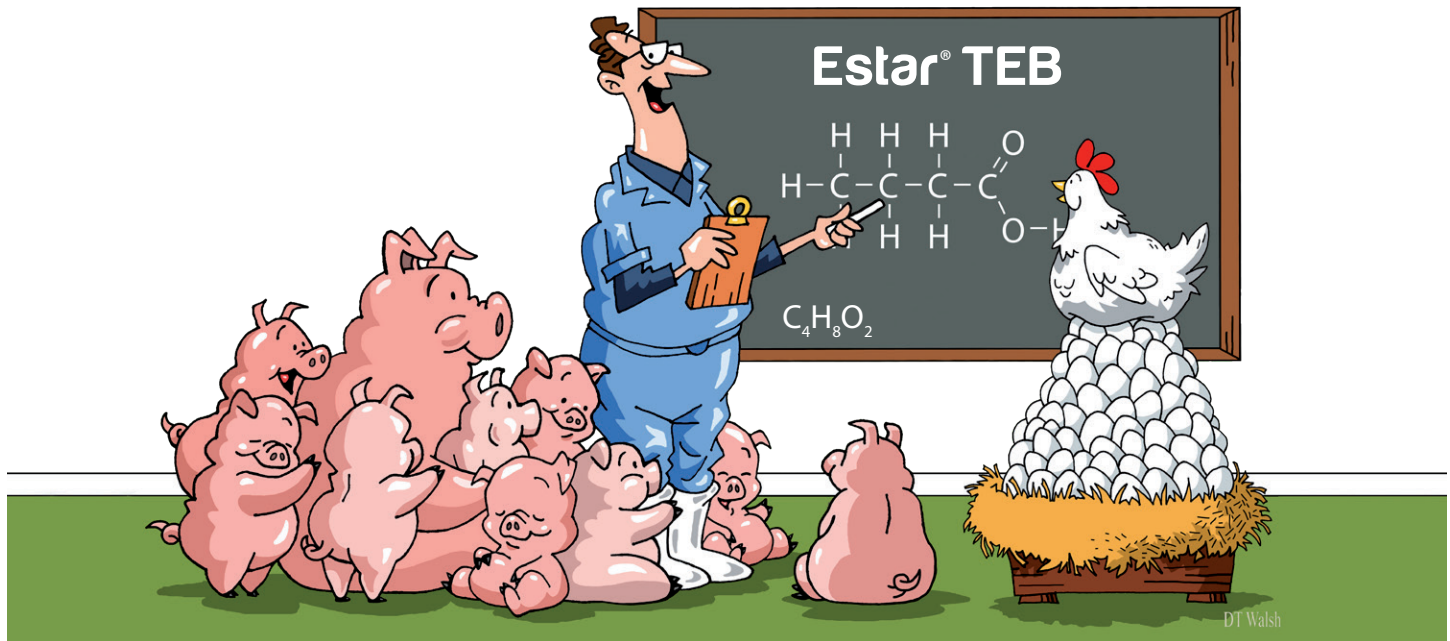
Offers greater intestinal antibacterial activity than calcium- and sodium-butyrate products;

Is easy to handle:

- ✓ Free-flowing powder;
- ✓ No odor;
- ✓ No volatilization loss;
- ✓ Water-insoluble.



Innovad® also offers additional esterified butyrate products with specific blends of mono-, di-, and tributyrins to match customers' specific needs.



✓ **More butyrate**

✓ **Stronger antibacterial**

✓ **Lower price**

Feeding rates

Broilers: 0.5 to 2.5 lb/ton of feed
Hens: 1.0 lb/ton of feed
Turkeys: 1 to 2 lb/ton of feed
Nursery pigs: 1 to 3 lb/ton of feed

To learn more

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