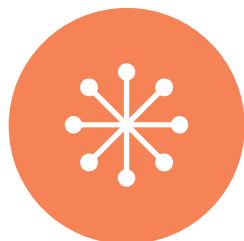


# What is Butyrate?

FACT  
SHEET



## BUTYRATE

- Is an energy source for the gut
- Stimulates digestive enzyme production
- Stimulates intestinal blood flow and proliferation of intestinal cells
- Has anti-inflammatory effects and protects cells from oxidative damage
- Enhances glycogen synthesis and can therefore improve liver function

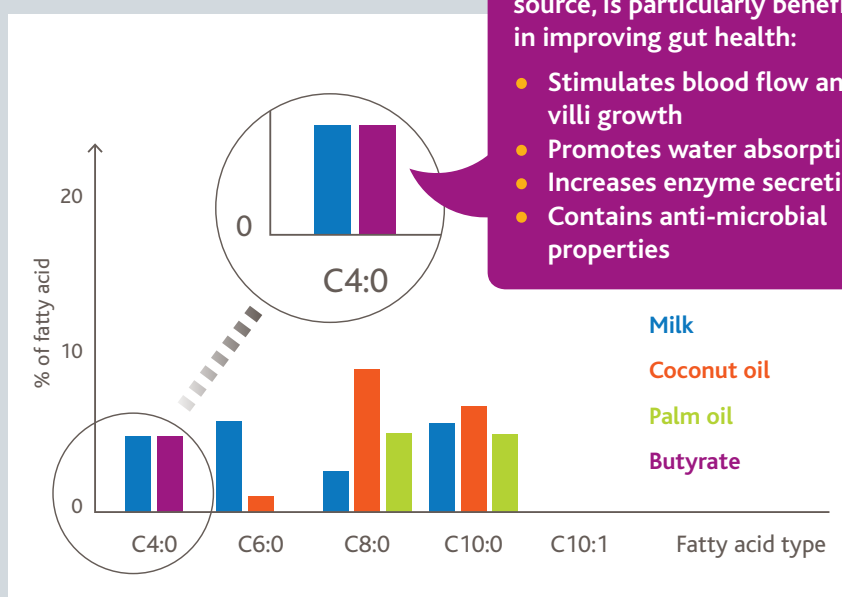
**This all leads to better digestibility and therefore better all-round growth of calves.**

**BUTYRATE** (or C4:0) is naturally found in milk fat and in higher quantities in Colostrum, but is not present in the vegetable fat sources which are used in the milk formulas such as palm and coconut. For that reason, we supplement our milk formulas with additional butyrate.

Butyrate is a short chain, volatile fatty acid. It is made of 4 carbons and is one of the shortest of the fatty acids. It is also naturally produced by the calf through the processing of feed.

Feeding Butyrate to young calves has a beneficial effect on overall growth, it increases rumen papillae length, improves gastrointestinal

development, encourages pancreatic secretions, and nutrient digestibility, thereby improving average daily gain as it encourages better digestion and resistance to disease as well as stimulating intestinal blood flow and production of intestinal cells.



Recent research suggests that Butyrate, a known energy source, is particularly beneficial in improving gut health:

- Stimulates blood flow and villi growth
- Promotes water absorption
- Increases enzyme secretion
- Contains anti-microbial properties



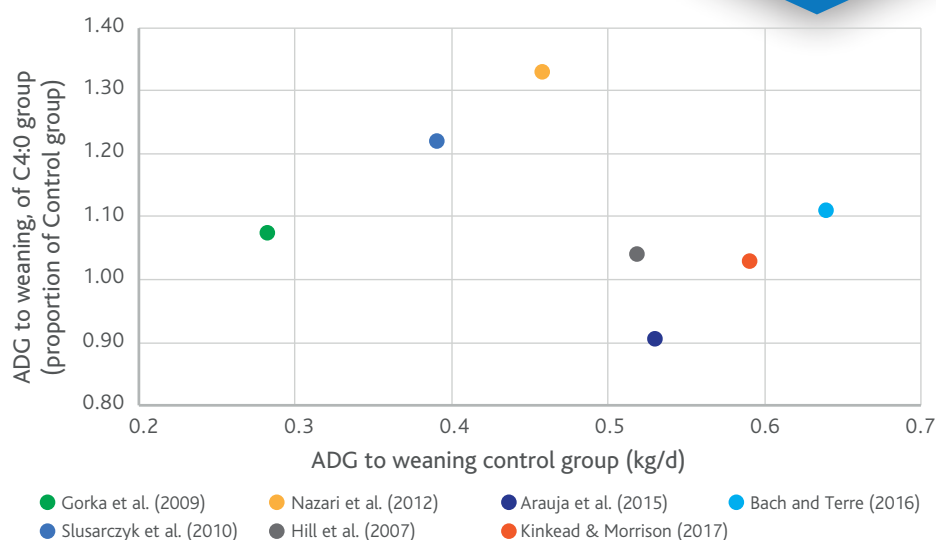
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# How does this affect Volac Calf Milk Formulas?

## FACT SHEET

Opposite is a summary of growth rate results -1.00 is the performance of the control group (without Butyrate supplementation), above 1.00 is a positive response. The studies carried out by Bach and Terre and also Kinkead and Morrison are funded, or part funded by Volac.

You can see that all calves supplemented with Butyrate experienced increased average daily gains to those which were not.



Adding Butyrate to the liquid feed in early weaning programs (especially when calves are on a high milk replacer feeding regime and are consuming very little calf starter) will accelerate rumen and intestinal development, thereby improving feed efficiency and protecting calves against stresses from weaning and diarrhoea. This will in turn result in bigger, healthier calves.

The inclusion of Butyrate has a positive effect on the calf and including it within our formulations encourages farmers to do better by their calves and maximise their return on investment.

## What does it mean?

It means that the product does look a little different.

**Appearance** – the Butyrate is visible in the product as bright white strands – these are added as part of the finishing process. When you see these strands, you can be sure your product includes this important additive.

- The product mixes just as it always has, Butyrate dissolves completely and easily.
- The aroma of the product has changed, some people are more sensitive to the new odour of the product however throughout all of our extensive trials and research, calves find the product just as palatable as they always have.



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