

# Common calf nutrition misconceptions

Research commissioned by Trouw Nutrition GB in 2022 showed that 65% of dairy farmers were feeding 6 litres or less milk replacer per calf per day. These lower milk intakes became normal practice based on a variety of different assumptions and misconceptions. However, a better understanding of calf physiology coupled with the development of higher quality milk replacers means we can now get back to feeding closer to natural volumes. This not only improves animal health, performance and lifespan, it also gives the farmer a better financial return and improves environmental sustainability.

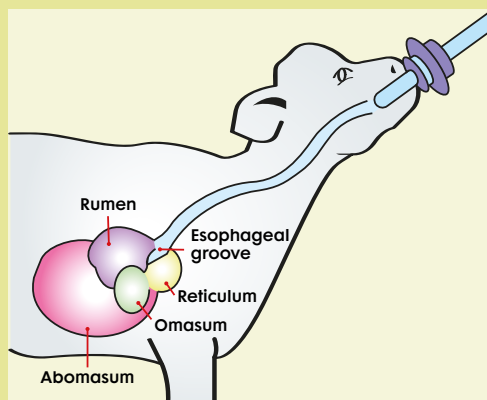
Here we explore the common misconceptions that have contributed to a lack of confidence among farmers to feed unrestricted milk volumes.

## MYTH 1: Reducing milk intake pre-weaning encourages calves to eat more solid food

Sometimes farmers worry they have to make a choice between focusing on feeding milk volumes or focusing on feeding starter volumes, but the fact is we need to do both. Nature designed calves to obtain their entire nutrient requirement through milk at the start of life as they are unable to process solid feed until their rumen has developed enough. By feeding elevated levels of milk (as nature intended) in the first 6 to 8 weeks the digestive tract develops more rapidly and calves have been shown to be able to consume higher volumes of solid feed post-weaning provided that the weaning process is carefully managed. (See our practical guide to feeding calves for more details.)

### What is the abomasum

At birth, the calf's digestive system is underdeveloped and for the first 2 weeks the animal is monogastric (single-stomached). Nutrients are digested in the abomasum during this time, bypassing the rumen by the esophageal groove. As the animal matures the rumen gradually takes over as the main stomach chamber.



## MYTH 2: Milk will overflow the abomasum into the rumen causing pain and discomfort

It turns out that the abomasum can significantly expand to match milk intake. One study showed that 3-week-old calves voluntarily consumed almost 7L of milk in just one meal without milk entering the rumen or any indications of abdominal pain or discomfort. This confirms what we see in practice that calves can easily consume at least 8 or 10 litres split over 2 or more feeds per day (or when fed ad lib).

## MYTH 3: Feeding calf milk replacer at higher volumes will cause scour and bloat

It is true that not all calf milk replacers are formulated to be safe to be fed at naturally high levels. However, choosing a LifeStart endorsed Energized Calf Milk you can have the confidence that it has been formulated with quality ingredients and lower osmolality to be safe to feed at >8L per day. It will also give the elevated energy intakes to maximise organ and immune system development for growth, health, productivity and longevity.

### Osmolality – what is it and why does it matter?

Osmolality measures the concentrations particles dissolved in a solution. It is also an indicator of lactose levels in a calf milk replacer.

Whole milk has an osmolality of around 330 mOsm/kg. Many calf milk replacers have an osmolality that is much higher, which means that lactose levels are also at a level that can damage gut integrity and put the calf at higher risk of bloat and diarrhoea.



## MYTH 4: Feeding 6L or less milk per day makes economic sense

Yes, it saves the money you didn't invest in the first few weeks of life, however it will restrict the animal's health and performance with potential lifelong impacts. On average this costs much more in health issues and lost revenues from cows not reaching their full milk yield potential.

### **MYTH 5: Feeding more milk can lead to insulin resistance**

It has previously been thought that feeding too much milk to calves will lead to insulin resistance and animals will be unable to control blood sugar levels. However, we now know that calves fed higher amounts of milk from birth are able to control blood glucose concentration. Research has shown that calves are able to slow down the rate of abomasal emptying to control blood glucose when fed larger meals. The key is to programme them to consume unrestricted levels from the first week of life as nature intended.

### **MYTH 6: Milk yields can be reduced by calves putting excess fat on mammary glands preweaning**

Evidence from the LifeStart Programme shows clearly that calves fed higher levels of milk replacer produce more milk in the first lactation. Whilst increased fat deposition in the mammary glands of postweaning heifers has been negatively associated with milk production there is currently no evidence to suggest that fat deposition in the mammary glands of preweaning calves has adverse effects on subsequent milk production.

### **MYTH 7: It is normal for calves to drink no more than 6L / day**

It feels normal because, with the best intentions, we have often limited intakes thinking we were doing the best for the animals in our care. However, mother nature designed calves to consume unrestricted volumes of milk. They are programmed to drink and have a strong suckling reflex. We now know that this is because the first few weeks of a calf's life are key for organ development, immune system development and gut development, which will impact the animal for its entire lifespan. It turns out that if we reverse this mindset not only do we improve calf wellbeing but we can also unlock the ability of the animal to reach its full genetic potential.

#### **5 signs your calves are hungry**

- » Naval sucking
- » Bar / gate sucking (increased risk of germ exposure)
- » Vocalisation
- » Lower growth rates
- » Increased incidence of health challenges

### **Time to rethink calf feeding**

Traditional beliefs about restricting calves to 2L of milk or replacer per meal to prevent the possibility of ruminal overflow are not correct and calves can be fed significantly more.

Trouw Nutrition's LifeStart Programme demonstrates that the benefits of higher rates of calf milk intakes lead to improved health and lifetime performance. The science confirms that we can provide more milk to our calves, although feeding higher levels requires a high quality milk replacer or whole milk. Our trials and on farm practice also demonstrate that these higher rates of feeding can be achieved even if only feeding twice a day.

**It's time to rethink our calf feeding strategy!**

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