

Taking the calf from milk-drinker to ruminant – the French way

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When rearing calves, the manner in which milk and feed is presented is a critical success factor.

Whatever practice is adopted, it needs to allow the newborn calf with its inactive rumen to make the transition from being a milk-drinking youngster to a young ruminant.

A feeding system called 'Suivez la tétine' or 'Follow the Teat' in which calves are fed milk from the same teat from the start of their lives until weaning, has become popular and successful on French farms.



French farmers have adopted a Follow the Teat feeding system in which each new calf suckles with a new teat and stays with the same teat until it is weaned.

Calves are designed by nature to drink milk from their mother's teats with an outstretched neck, and muzzle lifted.

This stimulates the oesophageal groove reflex and ensures milk bypasses the rumen and goes into the abomasum where it can be digested. In newborn calves, the rumen is not yet functioning, so digestion needs to take place in the abomasum and small intestine.

If milk does enter the rumen then it ferments, creating acids, and causing digestive upset and scours.

By contrast, when calves drink water in the wild, they spread their front legs and drink at a low level from streams. This ensures water goes to the rumen, and not the abomasum where it would upset the digestion of the milk.

These two simple physiological facts are key to successful calf rearing, and on which the Milk Bar feeding system 'Follow the Teat' is based.

Introduced from New Zealand

Milk Bar feeding equipment was first introduced into the UK from New Zealand 10 years ago. At the heart of the system is the patented Milk Bar teat, which is designed to mimic the features of a cow's teat.

The Milk Bar teats, when new, are short and firm, and have a concave end to prevent damage to the palate. Their design ensures that the calf has to suckle hard, and even then, milk is only released at a slow rate. It takes about three minutes for a calf to drink one litre of milk with a brand new Milk Bar teat.

The intense suckling action required provokes a massive amount of salivation. This is important for digestion and in the development of good calf health.

Saliva balances the pH in the abomasum, so that enzymes can break the milk down into curd and whey, which are then absorbed in the small intestine.

Saliva contains lipase, an enzyme necessary for digestion of fats, a vital energy source for the young animal. It also contains natural antibiotic properties, which are a young calf's first and main defence against infection.

Suckling activates the oesophageal groove reflex and prevents milk entering the inactive rumen where it would ferment and produce acids and lower the pH of the rumen.

Each calf's teat is transferred from the single feeder into the group feeder.



The act of suckling creates plenty of saliva and prevents cross-suckling.

This can cause long term damage that can affect the subsequent growth and production potential of the animal.

Follow the teat!

As is typical of many rearing practices, in France, calves are taken from their mothers, penned singly and fed colostrum for the first two days.

The Follow the Teat system starts on day three: each calf, still penned singly, is fed 2.5 litres of milk, twice daily using an individual Milk Bar feeder fitted with a brand new Milk Bar teat. To begin with, the firmness of the new teat will mean that the calf takes around 6-7 minutes to consume its ration, all the time salivating abundantly.

The effort required to suckle the milk will ensure the calf's saliva glands have emptied, and after finishing it will go and lie down to rest.

Cross-suckling and sucking of other animals' navels and ears, is an instinctive activity which arises when more saliva needs to be produced. The act of suckling hard at a Milk Bar teat generates plenty of saliva and so the calf does not need to suck on anything else.

Salivation provokes thirst. So it is important that fresh water is available to the calf from day two onwards. The earlier the calf drinks water, the sooner rumen function can develop and the earlier dry food can be taken in. To ensure water enters the rumen and not the abomasum, it must be available at a low level, never from a high bucket, and never from a teat.

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In France, calves will remain individually penned for approximately two weeks, before being transferred to a pen with others of a similar age. Milk is now fed from a six or 10-teat Milk Bar feeder.

This is where the benefit of calves ‘following the teat’ really comes into play. The original teats from the single feeders, which are now 2-3 weeks old and have lost their initial firmness, are transferred to the multi-teat feeder. So there will be one teat per calf. A blanking plug can be used to fill surplus teat holes on the feeder if needed.

Because all the teats are of a similar age and softness, whichever teat a calf suckles, it will be receiving the same rations as its pen

Age of calf (days)	Amount fed per meal (litres)	Frequency	Total amount fed per day (litres)
3-7 µ	2.5	Twice daily	5
8-14	Increasing to 3	Twice daily	5-6
15-25	Increasing to 3.5	Twice daily	6-7
26-30	3.5	Twice daily	7
31-50	Reducing to 2.5	Twice daily	5
51-60	Reducing to 4	Once daily	4

Table 1. Milk feeding programme for the Follow the Teat system.

mates. The teat flow rate is still slower than the calf’s drinking speed, so effort is still needed, stimulating saliva production and preventing cross-suckling.

The calves stay in their group pens until weaned, and are fed as shown in Table 1. Concentrates are available from day 25, and hay is offered once calves are eating around 250g of concentrate each day.

It is important to site the feeder so that the teat is positioned 60-70cm above the ground, ensuring the neck is stretched slightly upwards at feeding.

The feeder must be kept out of reach between meals, to prevent bored or hungry calves nibbling and damaging the teats. As always, good hygiene practices need to be followed and the equipment washed daily. Clean water must always be available.

As the calf grows, the importance of saliva for milk digestion diminishes, and it is now needed for rumination.

By the time calves are 60 days old, thanks to their age and the wear of the teat, it takes them only 80 seconds to drink one litre of milk.

Successful system

The ‘Follow the Teat’ system allows calves to feed as they would in nature. It has been a huge success on French farms where calves have shown better liveweight gains, not only during the weaning process, but also in the months following.

In part, this can be attributed to the energetic suckling that’s required, which develops the jaw muscles and enhances the efficiency of rumination.

The design of the Milk Bar teat also ensures that plenty of saliva is produced by the calf and that all the milk enters the abomasum, not the rumen. So nutritional scours are avoided and there is also less use of antibiotics. ■

Calves in Brittany on single Milk Bar feeders, which are kept out of the pens in-between feeding times.

