

IS IT TIME TO RECONSIDER YOUR CALF REARING PROGRAM?

There is a wide variation in calf feeding systems employed throughout Australia. Variations in facilities, time & labour available across farms mean that one calf feeding system probably won't fit all farms.

The best approach is to find a system that works best for your farm with the resources you have at hand, with the primary aim being to rear well grown, healthy calves, as economically as possible.

There is much debate about what is the "best" system for rearing calves and there seems to be some conflicting advice being presented to farmers. Following are a few aspects to consider when making calf rearing decisions:

Should calves be fed straw or good quality hay as a fibre source?

The reality is that roughage has minimal impact on development of the rumen wall. Feeding starch from grains rather than feeding fibre from forages is the key to fast rumen development. Butyric acid (an end product of rumen microbial digestion of grains but not forages) is the volatile fatty acid believed to stimulate the growth of rumen papillae by providing tissue in the rumen wall with energy. The photographs below illustrate the difference between development of a calf rumen at 6 weeks of age when fed milk & hay or milk & grain.

Providing that the calf starter provided is coarsely crushed, and contains a small amount of chopped forage (such as Elite Calf Starter) then hay & straw should not be required for the first 6-8 weeks, and in fact will be detrimental to calf growth and rumen development. Hay and straw is bulky and takes up too much room in the rumen of a small calf, and will reduce starter intake, growth rate, and feed efficiency.

Pasture is also not ideal for milk fed calves as its high water content limits its ability to provide adequate feed energy for rapid growth. Until their rumen capacity is larger, feeding pasture will restrict calf growth and rumen development just as hay & straw does.



MILK ONLY

MILK & HAY

MILK & GRAIN

When should calves be weaned?

Calves should be weaned when their rumen is fully developed and functional, not at a set weight or age. A calf weaned with an under-developed rumen will show a dramatic fall in growth. The best indication of rumen development is how much solid feed the calf is consuming. Calves should not be weaned *until they are eating at least 1kg/day of calf starter*. In a group situation intake should average 1.5kg/day before weaning to ensure that all calves in the group will be consuming enough to be weaned successfully.

If you consider that 5 litres of milk (@ 45c/L = \$2.25) contains roughly the same amount of Metabolisable energy (dry matter (DM) basis) as 1kg of concentrate (@ \$600/t = \$0.60), then it is easy to see that weaning calves off milk and onto grain is extremely cost effective. However, it is important to remember that the first 6-8 weeks will set a calf up for the rest of its life, so restricting milk intake too much could be detrimental to long term profitability.

How high in Protein does the calf starter need to be?

The protein source for calves as nature intended is milk. If you take into account that milk is 86-87% water (13-14% DM), then 3.0%-3.5% protein milk equates to around 23-25% protein on a DM basis. Therefore calf starter needs to be at least 20% protein to effectively act as a milk substitute. Feeding starter less than 20% protein has been found to reduce growth rate and feed efficiency in calves less than 2 months old.

Water

Water is a very important nutrient for calves that is often overlooked. Milk feeding once or twice a day does not supply sufficient water for a calf, therefore fresh, clean water should be available at all times. Calves will start to drink water between feeds at 1-2 weeks old, and by 6 weeks could be consuming as much as 4-5 litres.

Key points to remember:

- Hold off feeding straw or hay
- Don't skimp on milk fed in the first 6 weeks
- Calf starter should be 20% protein minimum
- Wean on intake of starter, not age or weight