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## Nutrition & growth

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Through studies it is becoming increasingly clear that well fed, well grown calves produce more and last longer in the herd. The first 8 weeks of life is a crucial time for growth which cannot be made up for down the track.

Good calf rearing practices help your calves turn into stronger more durable cows. These cows will then go on to have a longer life span and have higher lifetime production. Better for you, and for the animal, as they get to live longer happier lives in the herd. A calf that reaches its growth potential can produce up to 400L MORE milk in the first lactation. This doesn't even account for the extra milk over her productive years!

### Two feeds vs one feed

Baby calves are a monogastric animal essentially (one stomach). To grow and develop they need milk as their rumen is not yet developed. If your young calves are fed more, 8L vs 4L daily they not only gain weight faster due to extra nutrition, but they also become more efficient feed converters. With the extra nutrition they can better develop their liver and small intestine which allows them to utilise fats and proteins more efficiently which leads to better growth.

Further to this studies have shown 2 feeds a day results in better udder development. At 54 days mammary tissue was 6x greater in calves fed twice a day. In their first lactation it was these calves that went to produce 400L MORE milk in the first lactation.



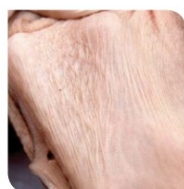
### Water!

Must be CLEAN and available to all calves (bobbies and replacements) from birth. It is an integral part of EVERY cell in a calf's body and is needed for the rumen to function properly.

Calves not offered water have been shown to eat 31% less dry feed and gain 38% less weight over a 4 week period compared to calves with constant clean water access.



### Rumen Development at 6 weeks of age



1. Diet: milk only

2. Diet: milk & hay

3. Diet: milk & grain

The next challenge is to help your calves make a smooth transition from "liquids" to "solids".

Supplementing their milk to ensure consistent and correct nutrition will lead to the following:

- Faster rumen development
- Increased growth rates
- Fewer health issues in calves
- Lower growth check at weaning
- Earlier calving age & improved milk production in future lactations

It is important to start transitioning your calves as soon as possible as this will give more time for the essential papillae to develop (see pic 3. above). Without papillae in their rumen, calves cannot get nutrition from grass which will result in a major check in your calves growth around weaning.

### Grain / Pellets / Muesli / Fibre

A well developed rumen has more papillae (projections that grow on the rumen wall and absorb nutrients), than a poorly developed rumen. Early introduction of quality grain and grain based concentrates stimulates the growth and development of papillae. These papillae are extremely important when moving to a grass based diet. In order for your calves to absorb nutrients and continue gaining weight, the rumen needs to be developed. Fibre ie straw/hay helps build the muscular layer in the rumen. Ensure your calves have this readily available in the sheds.

### Not eating the muesli?

Try switching to a whey based milk powder if you are using milk replacer anyway. This is digested faster so gets the calves nibbling at the muesli sooner before their next milk feed. Or try adding bentonite into the muesli, this helps with palatability.