NZAGBIZ

2024

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COLOSTRUM KEY POINTS OF CONSIDERATION

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Colostrum Provides the Essential Antibodies (IgGs) for Immunity		
Quickly	**Quantity**	**Quality**
Immune defence: Calves are born with a naïve immune system, no resistance against bacteria and viruses. IgGs help transfer immunity from the Dam	**Development:** Calves that don't get enough colostrum are far more susceptible to disease and have twice the risk of death	**Only the best:** If pooling colostrum make sure you only use colostrum with a brix reading of >22%
Better absorption: For the first 24 hours a calf's intestine is porous to IgG antibodies. "Gut closure" happens when the calf reaches approximately 24 hours of age	**Vital nutrients:** Newborns should drink 15% (~4L) of their birthweight in colostrum in the first 12 hours of life, to receive a minimum of 100g of antibodies	**Hygiene:** Stainless steel is best, and use a lid, when storing colostrum. Plastic drums are not ideal as they are very hard to disinfect due to micro-scratches
Sooner = more: The ability to absorb IgG's declines dramatically after 12 hours of age. The sooner the calf can receive these immune compounds, the more can be absorbed, providing more benefit to the calf	**Continued protection:** Following the first milking a cow produces transition milk for about 4 days, that shares a few characteristics with Colostrum. Calves should be fed this milk for their first 4 days	**Maintenance:** Antibodies in stored colostrum diminish over time, beginning from 2-3 hours of sitting (including inside the udder). Refrigeration is best if storing for a short time, freezing can keep colostrum for up to 6 months

No Exceptions: If refusing to drink, tubing may be necessary

How much to feed?

Best practice advice supports …

1. Feeding a good milk allowance (refer to the table as a guide below)
2. Feeding two feeds a day for the first three weeks of age
3. And not to be weaned before 6 weeks old

This will result in …

1. Improved growth and organ development
2. Potentially enhance the lifetime performance of calves

Twice a day feeding - 150g/L

Age	Approx. weight	Volume per feed	Grams per feed	Grams per day
0-4 days	-	Colostrum or Jumpstart™ fed ad-lib		
5-10 days	**30kg**	2L	300g	600g
11-21 days	**40kg**	2.5L	375g	750g
22-32 days	**50kg**	3L	450g	900g
33 days to weaning	**60kg**	3.5L	525g	1050g

Once a day feeding - 200g/L

Age	Approx. weight	Volume per feed	Grams per feed
0-4 days	-	Colostrum or Jumpstart™ fed ad-lib	
5-21 days	-	Follow twice a day feeding guide	
22-32 days	**50kg**	4.5L	900g
33 days to weaning	**60kg**	5L	1000g

If a feeding level of 13% of body weight is selected, as the preferred feeding regime, the above tables will provide you guidance on feeding quantities. If the calf is larger or smaller than the average weights provided, please adjust accordingly

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HIGH MILK ALLOWANCE BENEFITS

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Feeding a high milk allowance (HMA)* twice a day (TAD) will have long term benefits for animal growth and future milk production		
Improve milk production	**Improve animal welfare**	**Lower overall costs**
Average Daily Growth (ADG): higher ADG pre and post weaning leads to increased udder development and liveweight gains	**Satiety:** calves on a HMA have less hunger and distress which has a positive flow on effect for overall health	**Quicker to Slaughter Weight:** Increased ADG resulted in beef calves being sent for slaughter 10-33 days sooner
Udder development: calves reared on HMA had more udder parenchyma (tissue related to milk production)	**Immunity:** calves reared on a HMA have increased levels of antibodies against Leptospira and clostridia, leading to improved immune status	**Animal Welfare:** Generally, lower stress in calves resulted in healthier animals leading to less interventions (antibiotics, mating aids etc)
Frame Size: HMA results in a bigger framed cow, allowing for more gut capacity, directly impacting milk production	**Biological Needs:** HMA better meets a calf's needs without increased risk of nutritional scours	**Return on Investment (ROI):** bigger healthier heifers have better in calf rates and first lactation milk production

*20% of a calf's liveweight at birth (approx. 8L/day)

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CALF SELCTION & SHED SET-UP

CALVES ARE BABIES – vulnerable, no immune system. Human trust is formed before day 10

Shed considerations:

- Clean and well ventilated (not drafty)
- Bedding should be dry, warm, and soft
- Solid partitions between pens
- Good drainage

Naval treatment:

- Treat the naval like an open wound
- Completely saturate with stock safe iodine
- Before pick up and after arrival
- Electrolyte feed on arrival if travelling long distances

Milk feeding:

- Feed milk warm, body temp (38 degrees)
- Set up feeders at a height of 65cm
- Flow 3-4 mins/L, teats last ~150 feeds

HEALTH & HYGEINE

- Disinfect equipment for transport and feeding
- Detergents can erode teats, use chlorine based
- Personal hygiene; disinfecting and scrubbing boots, change of overalls after being in hospital pen. Use gloves
- Regularly clean feeders and teats
- Don’t feed penicillin milk – could transfer diseases, risk of antibiotic resistance
- Parasites commonly occur during weaning off meal and milk due to stress levels. Biggest loss of production due to parasites is subclinical cases – no symptoms
- Weigh once a month to keep track of growth
- No immunity to Coccidiosis until 6-12 months old

WEANING & RUMEN DEVELOPMENT

- Commence weaning off milk
  - Weight for age target met
  - Eating more than 1KG meal
  - Calves are in good health
- Minimise stress when weaning
  - 1 change at a time
  - gradually as possible
- Weaning gradually over 2-4 weeks, reducing milk intake by 25% every 3 days to 1 week
- Weaning correctly will ensure full development of the digestive system