

The Newborn Calf

Achieving the Best Start

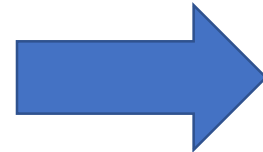
Charlotte Fowler BVSc MRCVS

St Boniface
Farm Vets



Neonatal Calf

- First few hours are critical
- Once it is born it needs to:
 - Maintain a critical body temperature
 - Shed the foetal gut contents (meconium)
 - Food
 - Immunity- Born without Antibodies



COLOSTRUM



5 Q's of Colostrum

- Quickly
- Quantity
- Quality
- sQueaky clean
- Quantify



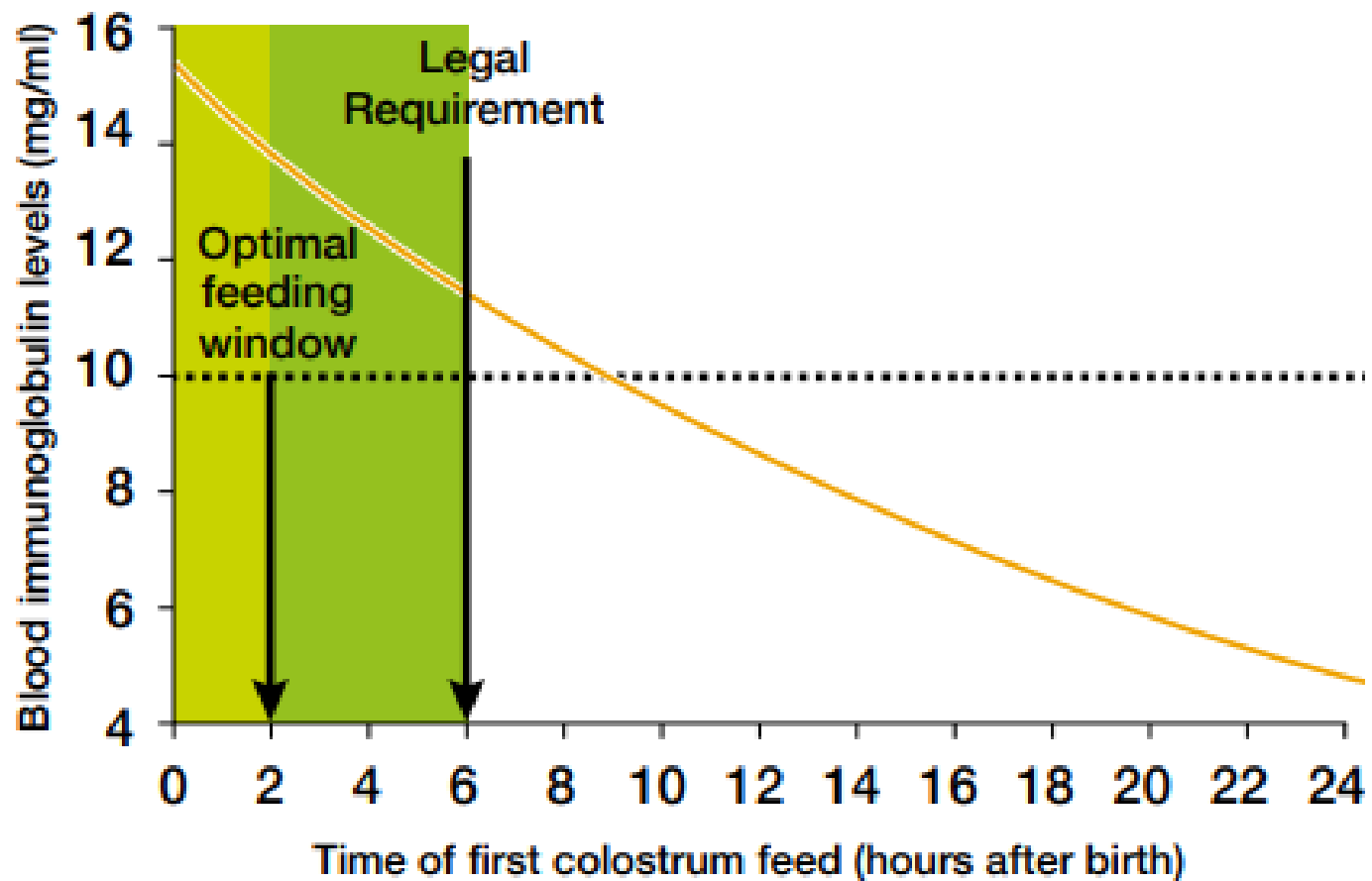
Quickly

- AS SOON AS POSSIBLE- ideally within 2-4hrs of birth
 - Initially gut is porous
 - Ability to absorb antibodies declines rapidly
 - Gut closure is accelerated once first feed occurs



Legally calves must receive colostrum **within 6hours** of birth





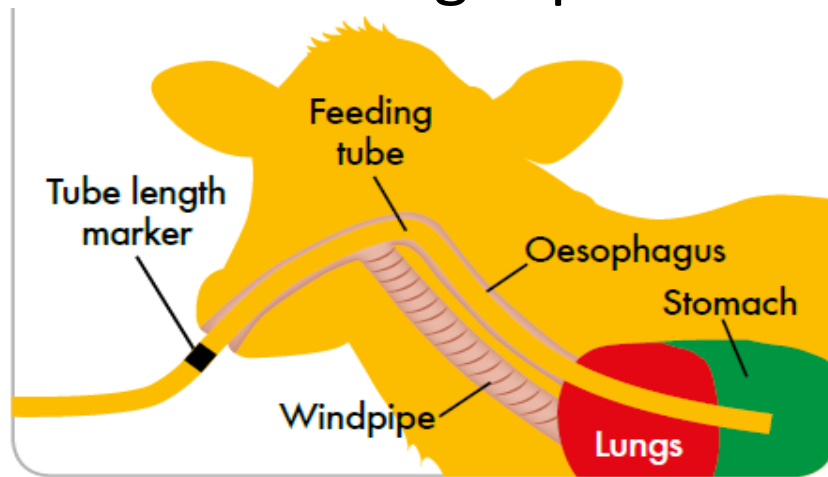
Quantity

- 4 L or 10% of bodyweight within 2-4 hours
- A calf needs to suck continuously for 20 minutes to consume enough from its dam
- Feed at 38°C
- Nipple or teat



Tube feeding

- Have a separate bag for colostrum/milk versus electrolytes
- Ensure it is clean!
- Check it's in the right place first!



Quality

- Massive variation between cows
- Good quality = at least 50g/L of IgG
- A minimum of 150g of IgG Ab fed to the calf should result in adequate passive transfer
- Quality decreases
 - by 3.7% every hour- dilution within the udder
 - when it is contaminated with bacteria



Testing Quality

- Colostrometer
 - Read the value where the colostrometer floats in the colostrum
 - Green = good quality = greater than 50mg/ml of Ig
- Brix refractometer
 - Values > 22% = good quality



sQueaky Clean

- Bacteria numbers can double every 20 minutes at room temperature
- Pooled colostrum - DISEASE RISK
- Pasteurisation

	Feed within:
Fresh Colostrum	1hour
Refrigerated	2days
Frozen	12months

Hygiene (continued/....)

- Ensure udder is clean before collection
- Avoid contaminating colostrum - clean hands, ideally wear gloves
- Use a clean dump bucket with a lid



Quantify

- Evaluate calf's immunity
- Blood samples taken by your vet
- Between 24hr and 7days of age
- Lab test (ZST) or using a refractometer (values \geq 5.5g/dL)



Summary

- Gut permeability decreases rapidly after birth
- **4 Litres of colostrum within 2-4 hours** of birth- tube feed if necessary
- Check quality
 - Colostrometer - >50mg/ml
 - Brix refractometer- >22%
- Hygiene!
- Check how you're doing:
 - Blood sample calves every few months to check colostrum management is working

- 5 Qs of Colostrum:
 - Quickly
 - Quantity
 - Quality
 - sQueaky Clean
 - Quantify



Additional Resources

- AHDB resources:
 - Calf rearing notebook
 - Better Returns from Calf Rearing PDF
- NADIS website bulletins:
 - <http://www.nadis.org.uk/disease-a-z/cattle/calf-management/calf-nutrition-and-colostrum-management/>

