

Healthy Calves: Doing Five Things Very Well

- 1. Help the dam grow and deliver a healthy calf.**
- 2. Help the dam produce top quality colostrum.**
- 3. Protect the newborn calf from pathogens.**
- 4. Harvest clean colostrum and keep it that way.**
- 5. Use colostrum to build newborn calf immunity.**

1. Help the dam grow and deliver a healthy calf.

- Provide a late lactation ration that avoids excessive conditioning.
- Provide a late gestation heifer ration that avoids excessive conditioning but adequate protein.
- Considering lactation and frame size, breed dams to bulls most likely to avoid difficult calvings.
- Provide a close-up ration that encourages dams to continue eating enough in the last week before calving.
- Provide adequate space for close-up dams before and during calving (in group housing, cubicles and at the feed fence).
- Provide experienced and timely assistance to dams experiencing difficulty calving.

2. Help the dam produce top quality colostrum.

- Provide enough resting space for close-up dams before calving.
- Provide a close-up ration that encourages dams to continue eating enough in the last ten days before calving – a period of rapid antibody concentration in the udder (colostrogenesis).
- Using a vaccine that best meets the immunity needs of the farm, vaccinate dams long enough before calving to stimulate the production of colostrum antibodies before colostrogenesis begins around 3 weeks before calving.
- As soon as practical after calving, harvest the dam's colostrum before the antibody level declines. Researchers found that colostrum collected at six, ten and 14 hours after calving had 17%, 27% and

33% fewer antibodies compared with colostrum collected two hours after calving.

- To avoid excessive loss of colostrum through leaking, consider milking the dam as soon after calving as possible. If oxytocin is used to promote uterine involution, consider milking the dam when the oxytocin is administered.

3. Protect the newborn calf from pathogens.

- Keep the calving area as clean as is practical.
- Rinse dung from the calf's head and mouth during the calving process.
- Protect the calf's mouth. The most common route of infection for a newborn calf is "muck to mouth." Once the calf gets up, plan to protect her from manure – on you, on the dam, on the bedding, on the pen walls, wherever.
- Protect the calf's navel. Dip as soon as possible after birth with 7% tincture of iodine (alcohol solution).
- The third most common route of infection for a newborn calf is nasal. The lower the concentration of airborne pathogens, the lower the calf's risk of infection.

4. Harvest clean colostrum and keep it that way.

- Do a super job of udder preparation prior to harvesting colostrum.
- Milk colostrum into a clean, disinfected bucket or container.
- Keep external contaminants out of the colostrum.
- Feed colostrum right away. Or, start chilling colostrum immediately after milking it from the dam to get it below 16°C within 30 minutes.
- Keep colostrum below 4°C until we are ready to feed it. Or, consider freezing excess amounts that will not be used within two days.
- Once warmed for feeding, get colostrum into calves within half an hour.
- Periodically sample colostrum as fed to calves. Have it cultured to determine the kinds and quantity of bacteria present.

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5. Use colostrum to build newborn immunity.

- Feeding sooner is better.
- Feeding more is better.
- Lots of antibodies per litre is better.
- Lots of energy and protein in colostrum promote calf health.
- Passive transfer failure: when the calf has too little immunity acquired from colostrum to protect her from pathogens, she gets ill.
- Measuring passive transfer failure – a blood sample taken 24 to 48 hours after birth can be used to measure success/failure of passive transfer in the calf. For more information go to www.calffacts.com, click on Metric version and scroll down to “Testing for Transfer of Immunity”
- Immunity goals are 90% of calves above blood serum total protein of 5.2 and 80% of calves above 5.5.