

Management of the Neonate



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Neonatology: Breeding Programs

- **Raising a healthy calf starts with a well planned breeding program**

- Sire consideration
 - Enhance gene pool
 - Size of the sire
 - Age of the heifer/cow



- Timing
 - The weather can play a significant role in the general condition of the neonate
 - Group calving versus multiple cows calving over an extended period of time
- Health of the heifer/cow
 - Milk production
 - Mothering capabilities
 - Vaccination status/colostrum





Maternal Care

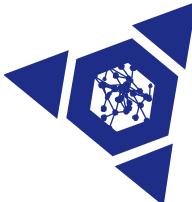
- **Vaccinate cow 30 to 60 days prior to calving to produce high quality colostrum**
- **Ensure adequate nutrition to support fetal development and adequate milk production**
 - May help reduce post-calving complications such as retained fetal membranes, metritis, and hypocalcemia
- **Provide ample room for calving**
- **Monitor for signs of calving in the event assistance or intervention is required**





General Calf Care

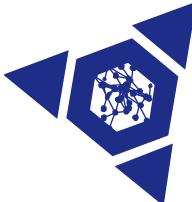
- **Ensure adequate intake of colostrum**
 - It is critical that owners determine if the calf has nursed
 - Nursing should be observed within two hours after birth
 - Colostrum should be force fed if calves do not nurse
- **Treat naval with a 7% tincture of iodine in alcohol solution to kill pathogenic bacteria that could cause a naval infection and help facilitate closure of the umbilicus**
- **Calves that have endured difficult or prolonged parturition are less likely to stand and nurse promptly and may require force feeding of colostrum**
- **Ensure adequate passive transfer by measuring total serum proteins**
 - 1 – 7 days of age, not before 18 hours



Colostrum Feeding

- **Studies have demonstrated that calves that do not ingest adequate good quality colostrum are 3 times more likely to get sick and 5 times more likely to die later in life than calves fed colostrum**
- **Colostrum must be administered within 12 hours after parturition to ensure adequate absorption**
 - Immunoglobulin absorption begins to decline four hours after birth
- **Calves should be given 3 - 4 liters depending on the size of the calf**
 - The colostrum can be divided into 2 to 3 feedings 2 – 4 hours apart but within the first 12 hours of life
 - The colostrum can be fed by bottle or given via stomach tube or esophageal feeder
 - **Risks associated with the use of esophageal feeders**





Clinical Evaluation of the Neonate: History

- **What are relevant historical questions to ask the farmer about a neonatal calf?**

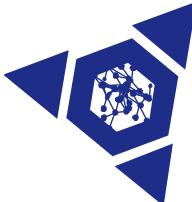




Clinical Evaluation of the Neonate: Physical Exam

- **Subtle differences exist between the clinical evaluation of the adult and the neonate**
- **What systems should be carefully examined?**





Clinical Evaluation of the Neonate: Common Diseases

- **What are the most common diseases of calves 1 – 7 days of age?**
- **What are the clinical signs associated with the top five diseases?**
- **Are there any ancillary tests that can be done to arrive at a final diagnosis?**





Assess for Failure of Passive Transfer (FPT)

- Weak, sick, high risk, and/or maladjusted calves should be evaluated for FPT
 - Passive transfer can be assessed using serum total proteins
 - Total protein concentration >5.2 gm/dl indicate that the calf ingested adequate good quality colostrum***
 - Total protein concentration can be falsely elevated if the calf is dehydrated
 - If a calf is dehydrated, rehydrate and reassess
 - Total protein concentration can be utilized during the first seven days of age to assess passive transfer
- Total protein concentration can be measured using a refractometer after the plasma and RBC have been separated

