INCREASING RESISTANCE TO PATHOGENS
An On-Farm Checklist

Has your farm recently evaluated measures to increase resistance to pathogens? Use this checklist to be certain you have not overlooked areas that could be improved.

1. Selecting procedures for excellent colostrum management

- Collecting clean colostrum soon after calving
- Feeding clean colostrum within one-half hour after collection
- For colostrum to be stored, chilling below 60° within one-half hour after collection
- Feeding enough high quality colostrum soon after calving
- Goal: High enough passive immunity from dam's colostrum to reduce infection rate.

2. Selecting an adequate ration for preweaned calves

- Monitoring calves' nutritional requirements for maintenance and growth

  * Maintenance needs increase as size increases
  * Maintenance needs increase especially below 60°
  * Growth needs depend on our goals

- Planning how to feed enough energy and protein to meet calves' needs for both maintenance and growth

- Goal: As her passively acquired immunity declines, we want the calf's own immune system to provide for immune competence. Immune system development when calves gain less than 1 pound per day puts preweaned calves at high health risk.

3. Selecting weaning methods that maintain high resistance to disease

- Monitoring indicators of rumen development (duration of grain intake, level of grain intake)
- Monitoring initial limited forage intake before feeding free-choice forages
- Monitoring stress events to avoid stacking of stresses (for example, changes in feed and housing, dehorning, vaccinating).
- Goals: Rumen competent heifers with good papillae growth and adequate numbers of fiber digesting microbes. Heifers that are not immunosuppressed due to excessive stress for too long a time.

4. Selecting a farm-specific vaccination program based on the risk of pathogen exposure (selections made with the advice of the herd veterinarian)

- Assessing nearly universal exposure risks (for example, IBR, BRSV)
- Assessing farm-specific exposure risks (for example, salmonella, clostridia)
- Selecting the vaccines that have the highest chance of creating effective resistance at a reasonable expense
- Selecting the proper protocol for administering the vaccines
  *Proper mixing and handling of vaccines
  *Schedule for initial and booster injections
  *Timing when immune response will be strong
  *Minimizing and treating anaphylactic shock

Sam Leadley, Calf & Heifer Management Specialist
smleadley@yahoo.com www.atticacows.com
For Calves with Sam blog go to dairycalfcare.blogspot.com

- Goal: Safe exposure to selected pathogens via vaccination rather than natural exposure. That will mean low morbidity and high resistance.

- Goal: A vaccination schedule and routine that results in every heifer receiving the proper vaccines at the optimum time to maximize disease resistance

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