Risk-Based Vaccination Guidelines: 
*Mannheimia hemolytica* and *Pasteurella multocida* (MH/PM)

Has Bovine Respiratory Disease (BRD, i.e. pneumonia) been a problem within the herd in the last few years? 

- **Yes**
  - Was a diagnostic investigation conducted to determine the cause(s)?
    - **Yes**
      - Has MH or PM been isolated as the cause(s) of BRD?
        - **Yes**
          - Consider doing a herd investigation.
        - **No**
          - Consider alternative disease control strategies.
    - **No**
      - Was a diagnostic investigation conducted to determine the cause(s)?
        - **Yes**
          - Consider doing a herd investigation.
        - **No**
          - Review your herd’s risk of BRD and best management practices with your veterinarian.

- **No**
  - Review your herd’s risk of BRD and best management practices with your veterinarian.

**Which age group was affected?**

- Calves
  - When do the calves usually get sick?
    - Prior to spring processing (< 1-3 months)
    - During summer turnout
    - After weaning

- Cows
- Replacement Heifers
- Bulls

Vaccinate cows at least 2 weeks prior to high-risk period, according to label instructions.

Vaccinate heifers at least 2 weeks prior to high-risk period, according to label instructions.

Vaccinate bulls at least 2 weeks prior to high-risk period, according to label instructions.

Vaccinate pregnant cows prior to calving and improve colostrum management AND/OR give an intranasal vaccine to calves at ≥1 week of age.

Given an intranasal or injectable vaccine at 2 or more of the following times: 
- spring processing (i.e. branding)
- 3-6 weeks before weaning
- weaning

Given an intranasal vaccine to calves at ≥1 week of age AND/OR give an intranasal or injectable vaccine to calves at spring processing (approx. 1-3 months of age).

Vaccinate cows at least 2 weeks prior to high-risk period, according to label instructions.

Vaccines should always be given according to label instructions.