

A Preventive Herd Health Program:



Checklist for Beef Producers

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Note: Each farm and ranch is urged to establish a specific preventive herd health program (PHHP) for their herds in consultation with a veterinarian.

Consulting with a veterinarian can give you realistic expectations and recommendations for disease control and vaccine usage. Each cow-calf operation is different and, therefore, has unique considerations to achieve herd health.

Factors unique to your operation include: nutritional resources, genetics, management style, facilities, disease history of the ranch, length of ownership, neighboring herds, environmental conditions and marketing strategies.

A. Breeding considerations

Females must be in a positive plane of nutrition to cycle and rebreed. Bulls must be sound, and should have a breeding soundness exam and match the goals of the breeding program.

- Determine a defined length of breeding season for cows.
 - The length of the breeding season is determined by each operation's objectives and culling criteria. There is no optimal length of breeding season.
 - The length of the calving season can be established by pregnancy exam.
- A high percent of the females should be bred by the end of the first cycle.
- Heifer age and weight for the onset of puberty is dependent on genetic selection and available nutrients, and will vary among breeds.
- Consider breeding heifers before the cows to provide for additional postpartum recovery time and more attention to potential calving difficulties.
- Review expected progeny differences (EPDs) for the selection of bulls to match farm and ranch objectives and resources.
- Correlate the age of bulls and breeding area with the number of cows to be serviced.
- Evaluate bulls for physical attributes and have reeding soundness examinations performed 30 days prior to the breeding season to allow time for selection of replacement bulls.

- Artificial insemination (AI) with estrus synchronization, timed AI and or heat detection may be implemented. See NDSU Extension publication S1712, “Estrus Synchronization for Natural-service reeding in Beef Cattle.”
- Ensure breeding herd has daily access to minerals and vitamins.

B. Immune system management

Remember: Making sure animals are healthy and unstressed at the time of immunization is imperative.

■ Neonatal period: This is the most critical period in the life of the animal.

- Ingestion of colostrum within the first six hours after birth is necessary for maximum absorption. Colostrum at birth provides immunity developed by the dam critical to the lifelong immune status of the animal. Neglecting this ingestion may lead to a higher risk of disease, death or productivity loss to animals.
- If maternal colostrum is not consumed or available, colostrum replacement products should be administered to calves.
- Lactogenic (colostral) immunity to the calf can be improved with the use of maternal vaccination procedures, but colostral antibody protection decreases as the calf ages.
- Dehorning and castration may be performed at this time.
- Tag or tattoo in conjunction with cow’s identification for records and pairing.

■ Branding time: This is a nonstressful time in the life of the calf that provides an opportunity for the administration of primary (initial) vaccinations. (6 weeks of age or around this time)

- Castrate and dehorn if not done at birth. Breeding to polled animals should be considered.
- Implant steer calves if they’re not in a natural or organic program. Implants should not be used in replacement females.
- Administer clostridial species vaccine given as bacterin/toxoid 7- or 8-way vaccine.

- Intranasal vaccines containing IBRV, BRSV and PI3V can be used here as a priming dose. Alternatively, a 5-way IBRV-PI₃V-BVDV (type 1 and 2)-BRSV vaccine recommended for suckling calves may be used (a second injection will be given at preweaning or weaning).
- *Mannheimia hemolytica* vaccine – These products may be used here if problems occur with “summer pneumonia” or if preweaning vaccinations cannot be given.
- Fly control and deworming products may be used at this time. Application too early in the season (before spring/summer grass) will give poor results.

■ Preweaning three to six weeks prior to weaning provides an opportunity to increase specific immunity prior to the stressors of weaning.

This period is critical in your vaccination program due to increased pathogen exposure, elevated stress levels at weaning and declining passive immunity (colostrum) protection.

- 5-way IBRV-PI₃V-BVDV(type 1 and 2)-BRSV vaccine given as a product recommended for suckling calves
- *Mannheimia hemolytica* vaccine given here to maximize immunity prior to weaning
 - Combination vaccines with 5-way viral and bacterial components are available and effective.
- Clostridial species given as bacterin/toxoid 7- or 8-way vaccine

Weaning is a stressful time for calves, so limit products given at this time, and practice low-stress handling and weaning.

- 5-way IBRV-PI₃V-BVDV(type 1 and 2)-BRSV given as a modified live virus (second injection if given at preweaning)
- Clostridial species given as bacterin/toxoid 7- or 8-way vaccine (not necessary if given at branding and preweaning)
- Deworm
- Implant calves if not in natural or organic program; implants should not be used in replacement females
- Age, source and verify

■ Replacement heifers less than 12 months old (preferably 6 to 11 months of age)

- Consult with your veterinarian regarding the necessity and timing of Brucellosis vaccination.
 - Follow state and federal regulations.

■ Pregnancy examination (45-90 days post-bull exposure or at a convenient time such as weaning)

- Identify the pregnancy status (pregnant/open) and approximate fetal age of each pregnant female.
- Evaluate females for culling; age; unsoundness of udders, feet and limbs; and disposition.
- Inventory all females according to age, breed, ID and body condition score.
 - Consider identifying cows by calving management groups and cull cows to meet marketing objectives.
- Deworm if re-exposure to parasites in growing pastures is low. Lice control may be implemented here, but if it is administered before lice become active, the animals will require repeat treatment. Lice control has become more difficult with single treatments, so consider treatment when actual clinical signs of lice appear.
- Some vaccinations, including leptospirosis and vibriosis bacterins (if an extended duration of immunity product is used for vibriosis), can be given at this time. Viral reproductive vaccines can be used here if not given prior to breeding. Make sure to consult with your veterinarian before using these products.
 - Read labels on safety in pregnant animals and withdrawal times for vaccines, deworming and lice control products.
- Calf scours: The initial dose of *E.coli* + *Clostridium perfringens* type C and D is given as a bacterin/toxoid, and Rota+Corona viruses if the herd has a history of a calf diarrhea problem. See NDSU Extension publication V1630, “Calf Diarrhea (aka Scours)”

Scours is often a result of environmental and management factors and cannot be corrected with vaccination alone.

■ Minimum of three weeks prior to calving

- Calf scours: *E.coli* + *Clostridium perfringens* type C and D given as a bacterin/toxoid vaccine, and Rota+Corona viruses if herd has history of a calf diarrhea problem
- Calves must receive enough colostrum from scour-vaccinated cows within the first 24 hours to reduce the risk of calf scours.
- Lice control (if a problem in your herd)

■ Cow and replacement heifer vaccinations (30 to 60 days prior to breeding)

- Vibriosis given as a bacterin vaccine (this is the preferred time of administration)
- Leptospirosis given as a 5-way bacterin vaccine
- IBRV-PI₃V-BVDV(type 1 and 2)-BRSV virus vaccine
 - Consult with your veterinarian on the appropriate product.
- These products are available in combination and have been shown to be effective

■ Bulls (30 days prior to breeding)

- Vibriosis given as a bacterin vaccine
- Leptospirosis given as a 5-way bacterin vaccine
- IBRV- PI₃V-BVDV (type 1 and 2)-BRSV virus vaccine
 - Consult with your veterinarian on the appropriate product.
- These products are available in combination and have been shown to be effective.

C. Nutritional considerations

- Have a nutrient analysis performed on harvested forages. See NDSU Extension publication AS1251, “Interpreting Composition and Determining Market Value.”
- Balance the diet for protein and then energy to maintain a body score desirable for the stage of production.
- High-magnesium salt should be provided 60 days before calving to the start of the breeding in grass tetany problem areas. See NDSU Extension publication V1703, “Grass Tetany.”
- Balance the diet for vitamins, macro- and micro-minerals and to compensate for trace minerals such as copper in deficient geographical areas.
- Consider the gain required to reach a target breeding weight when formulating heifer diets.

D. General management

- All incoming animals should be vaccinated in coordination with the existing herd program and should be separated from the herd for a minimum of 30 days in a bio-secure (quarantine) area to help identify diseased animals not yet showing clinical disease.
- Know the history of incoming breeding stock or test for Bovine leucosis (BLV), Johne's and persistent BVDV infection.
- Work cattle in the morning hours when possible during the summer to reduce heat stress.
- Fly control and shade are strongly recommended.
- Use the neck area for IM and SubQ injections.
- Use good sanitation, and remember that vaccines can be inactivated by heat (sunlight) and chemical disinfectants.
- Label syringes for use with the same vaccine each time.
- Change needles often (every 10 to 15 animals).

References

- Stoltenow, C., Dyer, N., and Stokka, G.L. Calf Diarrhea, V1630
- Lardy, G., and Stoltenow, C. Preparing for a Successful Calving Season; Nutrition, Management and Health Programs, AS1207
- Dahlen, C. Estrus Synchronization for Natural Service Breeding in Beef Cattle, AS1712
- Dahlen, C., and Stoltenow, C. Grass Tetany, V1703

Veterinarians are a valuable resource to aid farms and ranches in recordkeeping and management decisions related to health, and can provide input into nutrition and genetic selection areas.

Use a consistent, annual vaccination program developed by your veterinarian for your specific operation.
More isn't always better, and vaccination does not always mean your animals are protected.

For more information on this and other topics, see www.ag.ndsu.edu

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