

Cow herd vaccination programs, like calf vaccination programs², are an important component of a complete herd health program. Vaccination protocols should be designed with specific management systems and production goals in mind. Cows are generally vaccinated for three reasons: 1) to prevent disease in the cow, 2) to protect the newborn calf via colostrum, and 3) to protect the unborn calf from diseases that can result in abortion.



Preventing Disease in the Cow and Passing Immunity to Calves

Some cow vaccinations, like blackleg (clostridial), are given to protect the cow from diseases that affect her directly. Some vaccines develop immunity in the cow that is passed in the colostrum so her unborn calf will be protected from diseases such as rotavirus, coronavirus, or *Escherichia coli* (*E. coli*), agents that cause scours in newborn calves. The need for specific vaccinations of this type may vary depending on the disease prevalence in a given area and the age of the calf when a disease will potentially occur. As a general rule, booster vaccinations of this type should occur 2–4 weeks before calving so colostral antibody levels peak while colostrum is being made by the cow.

A third category of vaccines are given to help prevent diseases that can result in a loss of pregnancy, either from making the cow sick or making the unborn calf sick, thus helping prevent abortion. Examples of diseases these vaccines protect against are viral diseases like infectious bovine rhinotracheitis (IBR) and bovine viral diarrhea (BVD), bacterial diseases like vibriosis (bovine venereal campylobacteriosis) and leptospirosis, and protozoal diseases like neospora and trichomoniasis. In New Mexico, most pregnancy losses occur between mid-December and mid-February. Therefore, it may be preferable to vaccinate cows in the fall when cows are

gathered for pregnancy testing so the immunity stimulated by the vaccination will peak just before the greatest disease challenge and stress level to the pregnancy. In the fall, cows are generally in the best body condition of the production year, so under-nutrition is less likely to affect cows' response to vaccination. Some vaccines are more effective in preventing abortion when given before breeding.

Vaccination Protocols

If cows are on a spring vaccination (fall calving) schedule, modifications to the fall vaccination program shown here may be needed. It is important to note that there is a wide variety of vaccine types, combinations, and uses. Labeled directions must be strictly followed because some vaccines have narrow parameters of efficacy. For example, trichomoniasis vaccine must be given just before the breeding season because the duration of immunity from vaccination is very short. If this vaccine is administered at a different time its efficacy may be compromised.

It is also important to include bulls in the cow herd vaccination program because they can be a reservoir for some diseases. However, in the case of certain diseases,

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²For information about calf vaccination programs, see NMSU Extension Guide B-223, *Calf Vaccination Guidelines*, available at http://aces.nmsu.edu/pubs/_b/B223.pdf.

such as trichomoniasis, existing vaccines are not effective in bulls. This highlights the need to consult your veterinarian if you have questions about your vaccination program.

Vaccination is a tool that can be used very effectively to help reduce the incidence of disease in a cow herd. As with all tools, vaccinations must be administered correctly to get the full benefit. Proper timing, route of administration, dosage, and type of vaccine are paramount to preventing disease. Beef quality assurance guidelines should be followed whenever vaccines or medications are administered. Your veterinarian can help you develop a vaccination program specifically for your operation and geographic area. The following protocols are suggested for a fall vaccination program.

Cows and Bulls

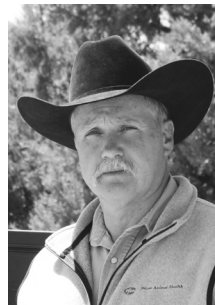
- Long-acting viral vaccine that includes at least IBR and BVD, and may include parainfluenza-3 virus (PI3) and bovine respiratory syncytial virus (BRSV)
- Long-acting campylobacter fetus (vibrio)/leptospirosis (lepto) vaccine
- Dewormer
- 7-way clostridial booster (optional)
- Other vaccines if necessary in your area

NOTE: In the fall, bred replacement heifers should be vaccinated using the same protocol as the mature cows.

Replacement Heifers (pre-breeding)

- Modified-live IBR, BVD, PI3, BRSV (initial at 2 to 3 months of age, plus booster around weaning)
- Vibrio and 5-way leptospirosis (initial and booster around weaning)
- Dewormer
- 7-way clostridial booster (optional)
- Brucellosis (optional; if administered it must be given by an accredited veterinarian and before 1 year of age)
- Other vaccines if necessary for your area

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