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# Beef Cattle Herd Health Management Guide for Maine #1031

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# Bulletin #1031, Beef Cattle Herd Health Vaccination Guide for Maine

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## Beef Cattle Herd Health Vaccination Guide for Maine

*Adapted by Extension Professor Donna Coffin, University of Maine Cooperative Extension*

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### Introduction



A herd health management plan is vital to profitable beef production. Some producers, however, do not vaccinate until they experience a loss. The investment in disease prevention is less than the cost of disease treatment. Don't wait until a disease outbreak occurs before implementing a sound herd health program. For cattle to reach their performance potential, they must be healthy. Vaccinations are an approved practice for organic producers.

Many animal health problems can be controlled with good management, proper nutrition, and vaccination against infectious diseases. Beef cattle vaccination programs vary, depending upon the type of operation and area of Maine. The purpose of this fact sheet is to provide the cattle producer with a basic herd health vaccination program. It is important to contact your veterinarian to determine if additional vaccinations are required for your area.

Risk-based vaccinations are determined by your type of operation, how frequently you introduce new animals or transport animals to other areas as well as disease outbreaks in your area. Your herd veterinarian will determine the risk-based vaccination protocol that you should follow as well as the use of a single vs. multiple disease vaccination schedule.

#### Table 1. Cattle Vital Statistics

Rectal Temperature	100.5-102.5° F (38.5° C)	Estrous Cycle	18 to 23 days
Heart Rate	60 to 70 beats/minute	Estrus	12 to 18 hours
Respiratory Rate	30 breaths/minute	Gestation Length	285 days

**Table 2. Vaccination Schedule: Cows and Bulls Vaccine**

IBR –BVD-PI3-BRSV	Recommended	Annual (killed or intranasal)
Leptospirosis (5-Way)	Recommended	Annual (every 3 to 6 months in some areas)
Vibriosis *	Recommended	Annual (30 to 60 days before breeding)
Clostridial 7 way	Recommended	Annual
Rabies **	Recommended	Annual
Trichomoniasis	Risk Based	Annual (30 to 60 days before breeding)
Pinkeye	Risk Based	As needed
E.coli	Risk Based	Vaccinate cows twice with second dose at least 30 days before calving (or as label recommends)

\* Any dairy breed should NOT BE VACCINATED WITH VIBRIOSIS, death may result.

\*\* Can be purchased and administered by farmers if they have a prescription from their herd veterinarian.

**Table 3. Vaccination Schedule: Calves\***

IBR-BVD-PI3-BRSV	Recommended	Prewearing
Leptospirosis (5-way)	Recommended	Prewearing
Clostridial 7 way	Recommended	Prewearing
Rabies**	Recommended	Prewearing
Brucellosis***	Recommended	Heifers (4 to 12 months)
Mannheimia (Pasteurella) haemolytica****	Risk Based	Prewearing
Haemophilus somnus	Risk Based	Prewearing

Pinkeye	Risk Based	As Needed
E.coli	Risk Based	Vaccinate cows (twice 30 days before calving)
<p>*Do not use modified-live products on calves that are still nursing cows. Can be used on calves over 90 days of age</p> <p>**Needs a primer and booster initially then annual booster. Can be purchased and administered by farmers if they have a prescription from their herd veterinarian.</p> <p>***Only by an accredited veterinarian and given an official vaccination tag and TATTOO.</p> <p>**** Required by some preconditioning programs for sales</p>		

Table 4. Vaccination Schedule: Heifers	
Brucellosis*	Calfhood (4 to 12 months)
IBR-BVD-PI3-BRSV	Before breeding
Vibriosis**	Before breeding
Leptospirosis (5-way)	Before breeding
Clostridial 7-Way	Before breeding
Rabies***	Annual
<p>*Only by an accredited veterinarian and given a vaccination tag and TATTOO.</p> <p>**Any dairy breed should NOT BE VACCINATED WITH VIBRIOSIS, death may result.</p> <p>***Can be purchased and administered by farmers if they have a prescription from their herd veterinarian.</p>	

## Reminders

1. **Modified Live Vaccines** (MLV) provide fast, broad immunity and are excellent stimulators of cell-mediated immunity. They are generally preferred in recently weaned calves and usually required by most preconditioned sales. However, do not use modified live vaccines in pregnant cows and in nursing calves unless the cows were vaccinated with MLV in the last 12 months (check label for specific requirements). If this requirement is not met, a killed vaccine must be used until the cow is open and the calf is weaned. Use only those vaccines that are dated for use (the expiration date is current).
2. **Killed vaccines** provide safe, protective immunity but must be given twice (usually 2-4 weeks apart depending on manufacturer) if it is the first time viral respiratory vaccine is administered. Annual boosters are required after the initial two-injection sequence to maintain protection.

3. **Booster Injection.** The initial dose is a priming or beginning dose for many vaccines. A second or booster dose is needed 2 to 4 weeks later depending on manufacturer. Maximum protection is usually not obtained until 1-2 weeks after the second dose is given. Annual boosters are needed to maintain protection.
4. **Legal in Maine?** Not all vaccines that can be purchased are legal to use in Maine. (Such as adult brucellosis vaccination in cattle.) When in doubt, consult your herd veterinarian.
5. **Needles.** It is recommended that a new needle is used on each animal vaccinated. Needle size of 16 to 18 gauge is suggested. Subcutaneous (SQ) needles should be ½ to ¾ inch long and Intramuscular (IM) needles should be 1 to 1-1/2 inch long. Once used, be sure to dispose of needles in a puncture-proof container with a lid for proper disposal.
6. **Where to give injections.** Injections should be given in the neck of the animal, never in the rump, following Beef Quality Assurance procedures. Animals should be restrained properly for the safety of the operator and the animal. When possible, if allowed on the vaccine label, administer vaccinations subcutaneously (under the skin) rather than in the muscle.
7. **Stress and sickness diminishes vaccination effectiveness.** Stress from castration or other management activities and sickness can reduce the strength of protection afforded by the vaccination. Be sure to have adequate handling facilities when giving vaccinations.
8. **Storage.** Store vaccines as recommended on the label.
9. **Records.** Keep records of date of vaccination, products used, serial numbers, expiration date, animal identification, etc.

## Conclusion

Vaccination programs should always be customized for your operation. Items to consider while establishing a vaccination program include geographic region, type of cattle operation, frequency of introducing new stock, post-vaccination problems, and export or interstate shipping requirements.

For best results, always follow the manufacturer's recommendations for dosage, method and route of administration, booster recommendations, and proper storage.

Preventing diseases through the use of a herd health management plan saves time and money. For best results, work with a veterinarian who is familiar with your beef cattle operation. Justifying the cost of preventive management is sometimes difficult. The annual cost of a vaccine health program ranges from \$3 to \$10 per cow-calf unit. Experiencing a health disaster certainly drives home the point that "an ounce of prevention is worth a pound of cure."

## Source:

Adapted with permission: Powell, J., S. Jones, S. Gadberry and T.R. Troxel. 2010. Beef Cattle Herd Health Vaccination Schedule. University of Arkansas Division of Agriculture, Cooperative Extension Service. FSA 3009

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