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***COW/CALF BIOSECURITY***

We hear and read about biosecurity for ranches and cattle more frequently these days. A common question is, "What are some practical things I can do to keep my herd secure and healthy?" This month we explore some of the procedures you can employ or may already be using to keep your herd safe.

***What's the most important thing I can do to keep my cattle healthy?***

The first step in biosecurity or general herd health is to maintain the resistance of the animals within your herd. There are a number of standard preventive medicine measures you may already be using.

- Vaccinate the herd against all important diseases (BVD, Clostridial diseases, Leptospirosis, anaplasmosis, IBR, etc.).
- Decrease stress by using low stress management for movement and processing.
- Provide ample feed, water, shelter, and shade throughout the year.
- Isolate all sick animals and get your veterinarian to diagnose diseases you are unsure of or that do not respond to treatment.
- Minimize fence line contact with neighboring cattle.
- Maintain a closed herd, if possible.
- Make sure you have a good supplementation program including trace minerals such as copper, selenium, iodine, zinc, etc.

***What about bringing new cattle into the herd?***

First, be very careful about where you purchase replacement animals. Get your cattle from herds with a good reputation for healthy cattle. Keep all new animals separated from the main herd for 30-60 days. This doesn't have to be in the corral, but can simply be in a separate pasture or part of the ranch.

***What important diseases can I test for before bringing in new cattle?***

As time goes on there will be more diseases that can be eliminated by animal testing. Traditionally, we have had tests for Brucellosis and Tuberculosis and these tests are still valuable when needed. Currently, adult breeding cattle being shipped from California to other states must be tested for Tuberculosis (movements within California do not require TB tests). Vaccination of replacement beef heifer against Brucellosis is still mandatory by California state law. Therefore, these two diseases have state and national programs aimed at elimination.

Bovine Virus Diarrhea (BVD) is an extremely important cattle disease and we have new tests that can detect the persistently infected (BVD-PI) animals. These BVD-PI cattle are the ones that infect many thousands of other animals by simple contact. The

new tests are simple and cost-effective. One of the tests uses an ear-notch and costs only \$3 per head. You can test an entire herd of 1,000 cattle for the price of a good bull at the Red Bluff sale. I recommend all new cattle be tested for BVD-PI before entering your herd. Your veterinarian can supply all the necessary details on this test.

Another important disease to test for is Trichomonosis. Again, the newer test methods are much simpler and cheaper. The standard recommendation is that all purchased bulls be test negative for this disease before being turned out at breeding. Most bull sales require this test and private treaty sales should adopt the same standards. Additionally, you should test all bulls in your herd before the breeding season each year. In California, we have a Trichomonosis control program that is aimed at eliminating positive cattle and notifying neighboring herds that have contact with infected herds.

There exists an abortion disease, Neosporosis that mainly affects dairy cattle but can also affect beef cattle. There are tests that can identify female cattle that are carriers of this disease. It is a good idea to test replacement cattle, particularly those that are purchased, for this condition. Again, it is simple and your veterinarian can get you set up to accomplish this testing.

Johne's disease is a disease that can easily be introduced into a herd through the purchase of animals. Testing of the individual young cattle is **not** an effective method for identifying infected cattle; however, several registered herds have started some level of testing in their herds. I suggest you have your veterinarian review their herd testing program to determine the possible risk of introducing Johne's into your herd by purchase of cattle.

### ***What about visitors?***

There is always a balancing act between biosecurity and hospitality. As a minimum you should prevent unauthorized visitors. It is often a good idea to direct all visitor traffic to a single location (house or office) using signs and roads. This will allow for some screening of visitors. You might consider the following measures with regard to visitors.

- Minimize the number of visitors.
- Be sure all visitors have clean clothing/coveralls, boots, and hands.
- Minimize visitors' contact with animals.
- Be sure all equipment brought onto the farm is clean or disinfected.
- Do not allow foreign visitors on the farm until they have been in the country for 5 days. This is because they can harbor the Foot and Mouth Disease virus in their respiratory tract after contact with animals in their country.
- Do not allow foreign visitors to bring any clothing, foods, or accessories they have had in another country onto the ranch.
- Provide foot baths at entrances and exits of animal facilities.

### ***What about disinfectants?***

Disinfectants can be helpful in maintaining biosecurity and some general guidelines are listed below. See table 1 for specific information on common disinfectants.

- Clean and remove as much organic material (dirt and manure) as possible, before disinfecting.
- Choose a disinfectant that will work against the pathogen you are trying to control.
- Be aware of any toxic, harmful or corrosive effects of the disinfectant.
- Follow the label on the disinfectant package.

Your veterinarian can be a valuable resource in terms of your biosecurity program and you are probably already doing a number of things to keep your herd healthy and secure.

John Maas, DVM, MS  
Diplomate, ACVN & ACVIM  
Extension Veterinarian  
School of Veterinary Medicine  
University of California, Davis

**Table 1. Information on Common Disinfectants.**

EXAMPLE AGENT AND DILUTION	EFFECTIVE AGAINST	INEFFECTIVE AGAINST	CONTACT TIME NEEDED	COMPARATIVE COST PER GAL.	ORGANIC MATERIAL (DIRT, MANURE) INACTIVATES	COMMENTS
Bleach-- Dilute 1:10	Viruses Bacteria Bacterial spores Fungi Mycobacteria	Crypto Giardia	5 min	\$1-2	Yes	-Corrosive
Isopropyl Alcohol	Bacteria Viruses Fungi Mycobacteria	Crypto Giardia Bacterial spores	5-10 min.	\$12	Yes	-Corrosive to rubber and plastic. -Evaporates rapidly. -Isopropyl alcohol will not inactivate non-enveloped viruses* -Common antiseptic
Iodine/ Iodophores (Betadine®) 1% dilution	Bacteria Viruses Mycobacteria Fungi	Crypto Giardia Bacterial spores	10 min	\$20-50	Yes	-Low efficacy with organic material present -Stains -Hypersensitivity reactions -Not good for hard surfaces -Common antiseptic
Chlorhexidine (Nolvasan®) ~2.5% dilute	Viruses (enveloped†) Bacteria Fungi	Crypto Giardia Pseudomonas Bacterial spores Non-enveloped virus*	10 min	\$30-45	Yes	-Common antiseptic -Not effective against Gram + cocci on hard surfaces
Peroxygen Compound (Virkon®) 1% dilution	Bacteria Viruses Fungi	Crypto Giardia Bacterial spores	5-10 min	\$52 for 10 pounds	No	-Only disinfectant with a label claim for Foot and Mouth Disease virus -Common antiseptic -Active for two weeks after application to a surface
Quaternary Ammonium (Roccal D®) 1:256 dilute	Bacteria Viruses (enveloped†) Fungi Chlamydia	Crypto Mycobacteria Bacterial spores Pseudomonas Non-enveloped virus*	10 min	\$70	No	-Works on hard and porous surfaces. -Works best at pH 9-10 -Often in detergent-disinfectant formulation

Phenols (Tek Trol®) 1:256 dilute	Bacteria Viruses (enveloped¶) Fungi Mycobacteria	Crypto Giardia Bacterial spores Non-enveloped virus*	Fast	\$20-35	No	-Good for porous and cracked surface -Malodorous and irritating
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It is important to read all labels before applying any disinfectant.

When disinfecting for Salmonella you must clean and acidify prior to use of disinfectant.

¶ Enveloped viruses include: Infectious Bovine Rhinotracheitis (IBR), Pseudocowpox, BVD, Bovine Respiratory Syncytial Virus, Vesicular Stomatitis, Corona virus, and Bovine Leukemia Virus.

\* Non enveloped viruses include: Bovine Papilloma virus (warts), Bovine Adenovirus (respiratory disease), and Foot and Mouth Disease.