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***CAUTIONS, PRECAUTIONS, ADVERSE AND UNTOWARD REACTIONS***

Most all of us have attended Beef Quality Assurance meetings and discussed the appropriate use of vaccines, antibiotics, and other drugs in beef cattle. The discussions have focused on effective use, administration, and withdrawal times. We always talk about the need to read the label and follow the label instructions. One of the areas on the label that not much time is spent on is the section labeled CAUTION or PRECAUTION. On some labels it will direct you to report any adverse or "untoward" reactions. First of all, what is an "untoward" reaction? Simply put, an untoward reaction (or adverse reaction) is anything that happens that is detrimental to the animal in any way—shortness of breath, collapsing, swellings, bleeding, infections, or any other abnormal reaction seen after the administration of a product. Cautionary statements can pertain to the animal or they can pertain to you or anyone else that handles the drugs or products. In this month's column I will discuss some of the reasons for these cautionary statements for some commonly used products.

***Prostaglandins***

The first of these products we will discuss are the prostaglandins used for estrus synchronization and other uses in beef cows and heifers. The trade name of the most commonly used prostaglandin is Lutalyse®, which is prostaglandin F2-alpha (PGF 2- $\alpha$ ). This drug causes the corpus luteum (yellow body) on the ovary to regress (disappear). Thus, it is an important tool when synchronizing cows or when aborting heifers. One of the precautions when using prostaglandins is directly related to this action. PGF 2- $\alpha$  also causes the corpus luteum on the ovary of humans to regress and thus can cause abortion or miscarriage in women. Therefore, women should not handle this product if they are pregnant or might be pregnant as it can cause the loss of the fetus. Another action of PGF 2- $\alpha$  is to cause bronchial constriction in some people—particularly those who may be asthmatic. So people who are asthmatic should avoid the use of these products. An additional caution is that these products can be absorbed through the skin, small cuts in the skin, and through mucous membranes such as the mouth or eyes. So injecting these products is not necessary for an untoward or even life-threatening reaction to occur. It is a good idea when handling these products to use latex gloves and to be very careful to avoid squirting the solution toward your face. The prostaglandins are wonderful products, very useful; however, these are serious precautions and you should always use appropriate techniques to assure those who handle these products do so safely.

***CIDRS***

CIDRs are plastic implants that are also used to synchronize cattle. They are made of a special plastic material that releases progesterone when the device is inserted into the vagina of cows or heifers. Because they release a steady amount of progesterone,

they can be used to synchronize a group of females. Because the progesterone can be absorbed by your skin, it is suggested you also wear latex gloves when handling these materials. The possible reaction to this type or product is much less severe than with prostaglandins, but should be avoided nonetheless.

### ***Brucella vaccines***

Many times a year I am asked why veterinarians are the only individuals allowed to administer the Brucella vaccines to heifers. There are several reasons, including third party recording of the number of cattle vaccinated and their herd or origin. But the most important reason is that this vaccine is a potentially deadly product when injected into people. In fact, it does not have to be injected to cause problems. The reconstituted vaccine can be squirted into your eye or splashed onto an open wound and result in a severe infection. The Brucella vaccine (whether the old Strain 19 or the new RB-51 vaccine) is a modified live bacterial vaccine. While it is modified to not cause disease in cattle the vaccine still causes disease in people. The disease in humans is called undulant fever and while it does not cause death in most patients, it causes people to have recurrent episodes of illness similar to malaria. Undulant fever usually causes illness in people for 7-10 years, despite therapy. Additionally, veterinarians can develop an allergy to the Brucella vaccine and this can cause immediate health problems on subsequent exposure. Because the Brucella vaccine itself is potentially so harmful to human health its use is restricted to veterinarians.

### ***Micotil®***

Micotil® (trade name tilmicosin) is an antibiotic that is similar to tylosin (Tylan®) and is very effective against the agents that cause pneumonia, particularly in feedlot cattle. While Micotil® is safe and effective for cattle it has been the cause of death in a number of people when injected. The drug causes serious toxicity of the heart muscle in humans and the manufacturer recommends extreme caution when using this product. Recommendations include (1) do not use in automatically powered syringes, (2) use extreme caution to avoid self-injection, (3) keep out of the reach of children, (4) do not work alone when using this product, and (5) seek immediate medical help if the product is accidentally injected. Common antidotes like epinephrine could increase the possibility of an accidental injection being lethal. Thus, the cautionary label for this product is extremely important to read, understand, and follow.

### ***Allergic reactions***

A number of products can cause allergic reactions and include such common items as penicillin. If you notice any redness, itching or swelling after using any products be sure and use latex gloves the next time you handle those particular products. This may help prevent a serious allergic reaction. Most all products have the potential to cause allergic reactions, so be aware.

### *Needle sticks*

No matter how careful you are with syringes and products around cattle accidental needle sticks can happen. Because many barnyard bacteria may be on these needles, infections at the site of the injection can occur. These infections may have severe consequences particularly if they occur in the hand. The hand has many complex joints, tendons, and ligaments. Also, it has a relatively limited blood supply (slower response to infection or inflammation). If you accidentally stick yourself with a needle, stop and wash the area thoroughly with soap and clean water. If swelling, redness, or pain develops be sure to see a physician as soon as possible.

The bottom line is to be careful when using cattle health products. Make sure everyone is educated about the appropriate manner to use these products. Finally, be sure to read, understand, and follow all precautionary statements on the product label.

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