

Proper Use of Drugs: A Critical Element in Herd Health Management

Vaccines and other therapeutic agents are a critical and essential part of sound herd health management. Proper use of these drugs will not only ensure the effectiveness of a particular treatment but protect against problems, such as blemishes, lesions and drug residues.

One principle of proper drug use stands out above all others— follow label directions.

"If you deviate from the label directions, you don't know what the product will do — in terms of efficacy, lesion production and especially withdrawal times," says Dr. Korb Maxwell, technical service veterinarian from Pfizer Animal Health.

That means using the recommended dosage and routes of administration detailed in the label directions.

In fact, departure from label directions requires a prescription from a veterinarian and constitutes extra-label use. The Center for Veterinary Medicines (CVM) of the FDA has very specific rules that must be followed for deviations from label directions.

Don't Combine Drugs in Same Syringe

Dr. Maxwell warns never to administer more than one drug at a particular site or combine products in the same syringe.

"Combining drugs in the same syringe could affect the injection site, withdrawal times and either of the drug's efficacies. Just because drugs don't visibly react in the syringe doesn't mean you can mix them. You can't."

Cleanliness and sanitation are two other critical elements of proper drug usage. "We need to use as sanitary a technique as possible," says Maxwell. "In a field situation, you obviously can't use a sterile technique, but you can use a sanitary technique."

This means placing equipment on a clean surface or tabletop. Syringes and needles, including implanting gun needles, should be placed on a sponge with disinfectant in it. The only exception is for modified live virus vaccinations, which can be damaged by disinfectants.

Equally important is proper use and care of needles. Dr. Maxwell advises changing needles every 10 injections. Use different needles to withdraw medication from the bottle and to give injections.

"If you use the same needle to withdraw medication and to inject, you risk contaminating all the remaining doses in that bottle of medicine.

"In addition, bent, barbed or dulled needles should be discarded, even if it's after the first injection. Needles are cheap compared to the amount of damage that you can do with a bad one."

Maxwell also recommends using the smallest gauge needle that can be conveniently used to administer a drug. Although needle size may vary depending upon the method of injection, 16-gauge, 1-to-1 1/2 inch needles are best for intramuscular injections and 16 or 18-gauge, 1/2-to-3/4 inch needles work best for subcutaneous (under the skin) injections.

Handle Animals Carefully

"Minimize stress," Maxwell says. "Everyone says it and it's absolutely true. Everything we can do to treat animals gently and humanely will help avoid injuries and will add to their quality."

Along these lines, Maxwell advises that proper use of drugs is not only following directions, but also taking a little extra time and care.

"So much of this is really common sense," he says. "But people get in a hurry and tend to rush things. We need to slow down and take a few more seconds with each animal and do it right. That can make all the difference."

Be sure to consult your veterinarian if you are uncertain about the use of a particular drug. A veterinarian can best resolve any questions about dosage, administration or any other concerns you may have.

Calves from Canada Don't Need TB Test

APHIS is now allowing calves which are at least five days old and less than four weeks to be imported from Canada to the United States without being tested for tuberculosis.

Officials expect this will expedite international movement by allowing them to be transported upon demand rather than waiting 72 hours for testing results before shipping. The relaxed restriction will reduce the amount of stress borne by calves during transit. The new regulation went into effect Aug. 12.

For more information, call David Vogt, Livestock Conservation Institute at (301) 436-8170.

Study Evaluates Need of Calfhood Vaccination for Bangs

At its 1992 annual meeting, the Livestock Conservation Institute passed a resolution requesting that the Animal & Plant Health Inspection Service (APHIS) conduct a cost benefit study regarding calfhood vaccination.

APHIS conducted such a study to gather information about these three questions:

- How does vaccination presently affect the risk of infection with brucellosis?
- What protection is being provided to the cattle population?
- What is the national cost of vaccination?

The study noted that, of the 43.8 million heifers and cows in the United States, the infection rate is 15 to 62 cattle per 100,000. The probability of exposure in a non-quarantined herd is as little as one in 1,500. More than 99.8 percent of the heifers are produced in herds not known to be infected.

The study suggests that fewer than 1,500 beef and 800 dairy heifers will remain in the brucellosis-susceptible population after the first calving.

Researchers estimated the probability of cattle being infected for vaccinated and non-vaccinated heifers. The study found non-vaccinated animals contracted brucellosis 34 out of every 100,000 cases while the rate for vaccinated cattle was 10 in 100,000.

In the area of international trade, the study noted that major U.S. foreign markets for breeding cattle do not require brucellosis vaccination. In fact, some countries discourage importation of brucellosis vaccinates.

Researchers suggest that continuing vaccination may not protect present foreign markets, rather they may cause them to decrease.

Vaccination is a cost borne primarily by producers, although state and federal governments subsidize vaccination by \$500,000. Yet, producers spend up to \$27.25 million in vaccination annually, which includes labor costs, for an average of \$6.25 to \$6.75 per head.

The study concluded that, in an infected population, vaccination provides a tool to increase the resistance to brucellosis, but it does not guarantee that a heifer will not become infected with the disease. Nor, does vaccination prevent an animal from transmitting brucellosis to others.

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