



Vet Call

► by **Bob Larson**, professor of production medicine, Kansas State University

Prevent drug and chemical residues in meat

The use of drugs in food-producing animals is an important requirement for protecting animal health and welfare and for efficiently producing food for a growing world population. However, because almost any chemical administered to an animal will be found in various body tissues and organs for some period of time after administration, establishing and following appropriate withdrawal times is essential for responsible drug use.

Waiting period

Withdrawal time is the length of time during which animals are not to be harvested — this allows time for the animals to eliminate drug residues from their bodies.

Because of the chemical makeup of different drugs, where in the body a drug goes and how long it stays there varies between drugs. Some products tend to be cleared from the body very rapidly, while other products will stay in fat or certain organs such as the kidneys or liver for longer periods of time. Drug residue surveillance in the U.S. is accomplished through a rigorous process of sampling and testing. Tens of thousands of samples are collected and processed each year in routine screening procedures aimed at identifying the occurrence of residues.

In order for a veterinary drug to be labeled for use in food-producing animals, a considerable amount of research must be done to document how long the drug can be detected in the animal's body. The Food and Drug Administration (FDA) and Environmental Protection Agency (EPA) make sure that withdrawal times printed on the label of drugs for food-producing animals are sufficient to protect consumers from residues of animal drugs in meat or milk.

When producers and veterinarians use drugs exactly as indicated on the label — using the drug in the approved species, at the specified dose and route of administration — following the withdrawal time on the label will provide high confidence that no residues are present in the animals and their products.

Therefore, whenever possible, only approved drugs given exactly as specified on the label should be used in cattle and other food-producing livestock. In fact, it is illegal for livestock producers to use any drug in a manner that is not consistent with the label requirements.

Responsibilities and risks

From a regulation standpoint, there are two classes of livestock drugs, over-the-counter (OTC) drugs and prescription drugs. Prescription drugs can only be purchased and used under the guidance of a licensed veterinarian who has a valid veterinary-client-patient relationship (VCPR) with you. Producers must follow the instructions on the label and the product must say on the label "Caution: Federal (U.S.) law restricts this drug to use by or on the order of a licensed veterinarian." OTC drugs may be purchased without a veterinarian's prescription, but they must be used exactly as specified on the label or they become prescription drugs and, therefore, their use must be prescribed by a veterinarian with a valid VCPR.

Under special circumstances, veterinarians have the right to prescribe some drugs that are not approved for use in beef cattle. A veterinarian can also prescribe an approved drug at a higher dose or different frequency or route of administration than on the label, or prescribe a longer use or for a different disease or species than indicated on the label. This is called extra-label use.

With this right come numerous responsibilities and risks — not the least of which is legal action and loss of veterinary license if proper procedures are not followed. When OTC drugs are prescribed for extra-label use, the withdrawal time on the label is no longer sufficient and must be extended. The veterinarian prescribing the drug is responsible for assuring the withdrawal time he or she puts on the label is supported by appropriate scientific information and will prevent residues that violate legal limits. In addition, the producer must maintain the identity of treated animals until the withdrawal time has passed and must maintain records for at least two years that include the animal identities

and conditioned treated in an extra-label manner.

An important condition allowing extra-label drug use is a VCPR, which has several requirements:

- The veterinarian has assumed the responsibility for making medical judgments regarding the health of the animals and the need for medical treatment, and the client has agreed to follow the instructions of the veterinarian.
- There is sufficient knowledge of the animals by the veterinarian to initiate at least a general or preliminary diagnosis of the medical condition of the animals. This means the veterinarian has recently seen and is personally acquainted with the keeping and care of the animals by virtue of an examination of the animals and/or by medically appropriate and timely visits to the premises where the animals are kept.
- The practicing veterinarian is readily available for follow-up in case of adverse reactions or failure of the regimen of therapy.

The VCPR is the cornerstone of allowing prescription and extra-label drug use in animals in the U.S. It ensures a way to involve a scientific process and professional judgment in deciding if and how to use drugs. Use of animal drugs is an important right for cattle producers and veterinarians, but a right that can be removed if not used responsibly.

Today's consuming public demands accountability and transparency from food producers, and cattle producers and veterinarians want to maintain a hard-earned reputation for providing a safe, wholesome and nutritious product. The beef industry has a good record of avoiding drug and chemical residues in meat, but continued commitment by all producers and veterinarians to adhere to withdrawal times following drug use is necessary to maintain and enhance consumer confidence in our product.

E-MAIL: rlarson@vet.ksu.edu