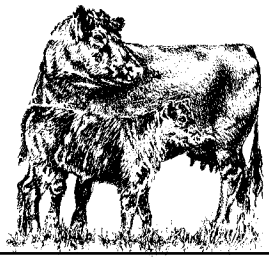

Western Beef Resource Committee *Fourth Edition*

Cattle Producer's Handbook

Quality Assurance Section 212

Beef Quality Assurance: Preventing Drug Residues

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Today's consumer expects each food product that is purchased to be safe, wholesome, high quality, and consistent. Consumers have various choices for protein sources in the marketplace today. In order to maintain consumer demand for beef, the industry has found it necessary to address and eliminate consistency and quality shortfalls.

One area of concern is drug residues. Violative drug residues are unacceptable levels [levels above tolerances set by the U.S. Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA)] of chemical remnants found in the edible tissues of carcasses at the time of slaughter. Persons administering animal health products are responsible for any drug residue problem found in edible tissues collected at slaughter.

In the 1994 Tissue Residue Annual Report, failure to adhere to approved withdrawal times was cited as being the primary cause of residue violations. Disregard of withdrawal times accounted for 43.4 percent of the cited drug residue violations. In addition to failure to adhere to approved withdrawal times, violative residues may result from the improper use of veterinary and animal health products (antibiotics, feed additives, implants, parasiticides, vaccines, anti-inflammatories, minerals, etc.), and the improper administration of these products. In the 2010 Residue Violation Report, the U.S. Department of Agriculture - Food Safety Inspection Service (USDA-FSIS) listed the following percentages of residue violations in various major classes of cattle: beef cows 0.11%; bob veal calves 0.48%; dairy cows 0.15%; bulls 0.07%; steers 0.06%; and heifers 0.00%.

In the 2007 National Market Cow and Bull Quality Audit (NMCBQA), during face-to face interviews, beef packers cited antibiotic residues as one of the leading (ranked 4th out of 10) concerns facing the industry because of potential food safety implications. The beef industry's affiliated organizations were also quick to list antibiotic residues as a major concern facing the industry, even though the 2007 NMCBQA demonstrated a reduction in antibiotic residue concern compared to the 1999 NMCBQA where residues ranked second in the list of top 10 concerns. According to the audit, for every cow and bull that is marketed and slaughtered, the beef industry loses 92 cents for antibiotic residue handling and testing. The figure may seem modest, but it should be understood that it does not include the losses/costs associated with cuts and carcasses being trimmed and condemned as a result of violative residues.

Violative residues can result in economic losses to individual producers and to the beef industry as a whole. Drug residue problems may cause negative publicity for the beef industry and may undermine consumer confidence in beef when food safety and health issues arise. Following are a few management tips to help prevent violative drug residues, enhance beef quality, and maintain consumer demand for beef.

Read and Follow Drug Labels

Federally (FDA) approved animal health products are tested and have met stringent requirements. Testing regimes ensure that products consistently perform according to manufacturer claims and ensure that products will not harm animals when administered accord-

ing to label directions. Manufacturers bear the responsibility for labeling over-the-counter (OTC) drugs, and veterinarians bear the responsibility when prescription drugs are dispensed.

Producers should read the label before purchasing and using animal health products. Labels are provided to ensure that proper drugs are selected, that drugs are administered properly, and that the possibility of residues is minimized. If at any point (pre-treatment, treatment, post-treatment) questions, concerns, or misunderstandings arise regarding label contents and instructions, a veterinarian should be consulted.

Extra-label use drugs (ELUD) are any drugs used in a manner, or under conditions, that are not identified/specified on the label or package insert. There are specific FDA guidelines for ELUDs and all require veterinary supervision, an appropriate prescription, and defensible justification for the extra-label use.

Administer Drugs Properly

Animal health products should be administered in such a way that treated animals can use the products effectively and efficiently. The method and route by which a drug is administered is dependent upon the biological properties of the drug, how quickly a response to the drug is required, and the site in the body where the drug action should take place. In all cases, label directions should be followed when administering drugs.

Some points to remember when administering animal health products include:

1. Place all injections in front of the animal's shoulder.
2. If label allows, choose a route of administration that minimizes risk of tissue damage (subcutaneously vs. intramuscularly).
3 Select sharp, sanitary needles of the correct length and gauge.
4. Do not use bent, burred, or broken needles.
5. Do not inject more than 10cc of product in one injection site.
6. Keep injection sites at least 4 inches apart.
7. Follow withdrawal periods.
8. Do not use products that have expired or are out of date.
9. Do not use animal health products, even over-the-counter products, in an extra-label manner without a prescription.

By law, any animal health drug (prescription or over-the-counter) used in an extra-label manner requires a prescription from a licensed veterinarian. Consider the following example. Penicillin G is available OTC (non-prescription) and has a labeled dose of 1cc per 100 pounds of body weight with no more than 10cc given per injection site. Veterinarians are the only individuals to determine if an alternate (other than labeled) dose or route of administration is medically appropriate. In these situations, veterinarians must add a prescription label to the drugs and provide the necessary withdrawal period for the drug being used in an extra-label manner.

Keep Proper Records

Maintaining a permanent record of all animal health product use is key to eliminating drug residues and maintaining consumer confidence in beef. Treatment records may be kept on individual animals or on entire groups of cattle that were worked and treated at the same time and in a similar fashion. Whether the records are for individuals or for groups, they should:

1. Identify the animal(s) treated,
2. Specify the date(s) of treatment,
3. List the drug administered,
4. Record drug lot numbers,
5. List the dosage given,
6. Provide the route of administration,
7. Identify the injection site,
8. Identify the person who administered the drug,
9. Show the withdrawal period for the drug administered, and
10. List date that treated animals can safely be marketed/slaughtered.

Personnel associated with beef cattle enterprises should be provided with treatment records and should familiarize themselves with the documents. This will help to prevent treated animals from being prematurely marketed before they have cleared their drug withdrawal period.

Strictly Adhere to Drug Withdrawal Times

Every federally approved drug, or animal health product, has a withdrawal period printed on the label or package insert. Withdrawal periods represent the amount of time it takes for an animal to metabolize the administered animal health product and the amount of time it takes for the product concentration in the tissues to decrease to a safe, acceptable level. A withdrawal period is the time from the last administration of the drug to the time the treated animal can be marketed for harvest.

Before they use an animal health product, producers should refer to the label and/or package insert, determine the proper withdrawal period, and calculate a safe marketing date. Most beef cattle animal health products carry a withdrawal period that ranges from 0 to 60 days. Animals treated with a product that has a withdrawal period of 60 days should be withheld for **at least** 60 days before being marketed for harvest. Withdrawal periods may be extended when combinations of drugs are used or when extra-label drug use occurs. In these situations, or at any time a producer is uncertain of a specific drug withdrawal period, a veterinarian should be consulted.

NOTE: The following web page (URL listed below) is made available to assist producers in becoming familiar with and adhering to approved drug withdrawal periods. This resource is made available by MWI Veterinary Supply in Boise, ID, and is presented for educational purposes only. Changes in drug withdrawal information occur periodically. Therefore, it is the responsibility of the beef producer to read and follow all animal health product labels and package information. If at any point there is a question on a drug's withdrawal period, a veterinarian should be consulted.

Website: http://www.mwivet.com

Instructions: On MWI homepage, select "Compendium" under "Industry Resources" (tabs on left side of homepage).

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