

Test your drug residue I.Q.

Compiled by the Wisconsin Veterinary Medicine Association (WVMA) Drug Residue Task Force



You may know that cull cows and bob veal calves are the dairy industry's drug residue vectors, but how much do you really know about tissue violations and what are you doing to prevent them?

When it comes to protecting the meat and milk supply, the Wisconsin Veterinary Medical Association (WVMA) is stepping up to the plate. The group recently established Food Armor™, Hazard Analysis and Critical Control Points (HACCP) for Proper Drug Use, to encourage veterinarians and producers to work together to evaluate how medications are used on farms.

"We must remain committed to continual improvement by analyzing the risks and implementing and remaining accountable to the control points in producing safe food," WVMA Executive Director Kim Brown Pokorny says.

Producing safe food while using medications properly on dairy farms is in the best interest of the farmer, the veterinarian, the animal and the consumer. Are you making the right decisions on your dairy? Take this quiz yourself and share it with your managers and employees.

1 Can sulfadimethoxine (Albon®) be used to treat mastitis in lactating dairy cattle?

- A. Yes
- B. No

2 Is tilmicosin (Micotil®) approved for dairy cattle 20 months old or more?

- A. Yes
- B. No

3 What is the number one cause of violative residues in bob veal calves?

- A. Neomycin
- B. Flunixin
- C. Sulfa
- D. Medicated calf starter
- E. None of the above

4 Could dry cow treatment create a residue in colostrum?

- A. Yes
- B. No

5 Can feeding waste milk to calves, whether pasteurized or unpasteurized, cause a residue hazard?

- A. Yes
- B. No

6 At the farm level, who has the responsibility to meet the food safety requirements within the veterinarian-client-patient relationship (VCPR)?

- A. Owner
- B. Manager

- C. Veterinarians
- D. Cow-side workers
- E. Milk and meat processors

7 Where should you get your primary information on how to effectively treat cattle for specific diseases?

- A. Card club/social media
- B. Dr. Google/Internet
- C. Neighbors/other dairy producers
- D. Nutritionist
- E. Trade magazines
- F. Extension staff
- G. Veterinarian
- H. Pharmaceutical sales reps
- I. Other

8 Has testing for tissue residues increased or decreased over the past six years?

- A. Increased
- B. Decreased
- C. Stayed the same

9 Has the number of tissue residues increased or decreased during this same period?

- A. Increased
- B. Decreased
- C. Stayed the same

10 Over the past five years, which drug has caused the most violative tissue residues?

- A. Ceftiofur
- B. Flunixin
- C. Gentamycin
- D. Oxytetracycline

- E. Penicillin
- F. Sulfadimethoxine

11 Based on the manufacturer's label, what is the penicillin dose for a 1,500-pound Holstein cow?

- A. 15 cc
- B. 25 cc
- C. 35 cc
- D. 50 cc
- E. 100 cc

12 For lactating dairy cattle, penicillin is labeled by the manufacturer to treat which disease condition?

- A. Bacterial pneumonia
- B. Metritis
- C. Mastitis
- D. Foot rot
- E. Pink eye
- F. All the above

13 How is the milk and meat withholding time different if flunixin is given intramuscular instead of the label recommendation of intravenous?

- A. 36 hours milk and four days meat withhold
- B. 60 hours milk and eight days meat withhold
- C. 72 hours milk and 16 days meat withhold
- D. 72 hours milk and 30 days meat withhold
- E. None of the above

14 Are extra-label protocols necessary for all definable, treatable conditions?

- A. Yes
- B. No

15 How does the FDA define a lactating dairy cow?

- A. An animal that has given birth to at least one calf
- B. An animal 20 months old or more
- C. An animal that has reached 24 months old

16 Are drug residues a drug problem or people problem?

- A. Drug problem
- B. People problem

17 How do you identify animals that do not require antibiotic therapy?

- A. Diagnostics of the cause
- B. Medical history of the animal
- C. Natural immunity will resolve the condition
- D. All of the above

18 Residues most commonly result from:

- A. Using drugs in an extra-label manner without lengthening the withholding times
- B. Absence of proper animal identification
- C. Absence of treatment records
- D. Absence of a VCPR
- E. All of the above

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1 B. No. Albon® is only labeled for pneumonia and foot rot. Extra-label drug use (ELDU) of sulfas is prohibited. ELDU of sulfonamide-class antibiotics is prohibited in lactating dairy cows over the age of 20 months.

2 B. Tilmicosin (Micotil®) is not approved for use in female dairy cattle 20 months of age or older.

3 A. Neomycin is the leading cause of violations in bob veal calves; however, each of the products listed may cause residues if not managed properly. Any drug not approved for that class of animal (bob veal) can cause a violation, which is why it is important to read and abide by the label. Milk replacers, waste milk, medicated feeds and injectable medications can also all cause residues. If specifically prohibited from bob veal, the tolerance level is zero.

4 A. To eliminate the residue potential for bob veal, the label for the dry treatments used must be read and understood. Specifically, there are risks associated when treated cows calve early, abort or do not have a full dry period.

5 A. If the waste milk comes from cows that received medications, there is a risk for residue. Pasteurization does not eliminate medications in waste milk.

6 A. Ultimately the owner is responsible for producing milk and meat free of drug residues. To do this, the VCPR team need to develop and implement a drug usage plan in the form of a hazard analysis critical control points (HACCP) program that analyzes risks and establishes control points.

7 G. The roles and responsibilities within the VCPR team vary, but the veterinarian's role is in the procurement and understanding of how to comply with the food safety needs of the farm and health of the animals. According to state and federal laws, licensed veterinarians are tasked with determining the farm's animal health needs and treatment options as well as establishing withdrawal times.

8 A. It has increased. Tissue sampling has increased in the targeted samples. Targeted samples refer to those animals tested at the discretion of the inspector because he/she has reason to suspect that individual animal maybe at higher risk for residues. Examples include lame cows, cows with swollen udders, obviously fresh cows, cows with incisions or stitches and cows that have tissue changes which might indicate injection sites.

9 B. Even though more market dairy cows are being tested than previously, the number of carcasses with violative residue has decreased.

10 E. For a over a decade, Penicillin has been one of the drugs most frequently found in beef carcass residue violations. Most of these violations are due to EDLU and not extending withdrawal times.

11 A. According to the manufacturer label, a 1,500-pound Holstein cow can receive 15 cc intramuscular, at two separate sites, no more than 10 cc per injection site, and once a day for three to four days. Any amount above the manufacturer's or change in route other than label directions is ELDU.

12 A. Bacterial pneumonia. Treatment of all other condition would be considered extra-label, and a veterinarian prescription and oversight is required.

13 E. Flunixin should not be given IM. It is labeled only for IV, and the Animal Medicinal Drug Use Clarification Act (AMDUCA) does not allow a veterinarian to change the route of administration because it's easier.

14 B. A common mindset is that extra-label is extra-special, and that label treatments are minimal treatments and we feel compromised when we use the label treatments. In actuality, label treatments are effective (and expected) for most definable conditions. At the farm level, we first must define expected satisfactory therapeutic results in order to demonstrate this to ourselves. This cannot be accomplished without management level records. Recall that an on-farm protocol is designed for easily recognizable, commonly occurring conditions where instructions have been written in a SOP and are to be followed when the veterinarian or owner are not present. If an individual animal is attended to by the veterinarian, what he/she treats an individual animal with does not formulate a new farm protocol or replace an existing farm protocol. Farm protocols are co-constructed by the VCPR team including the owner/manager, the veterinarian and the cow side employees.

15 B. Female dairy cattle 20 months old or more are considered lactating including dry cows.

16 B. Drug residues are a people problem. Remember, we must have records that allow the person responsible for returning the animal to food production to know when a label protocol has been extended to an extra-label therapy, thus requiring an extended withdrawal time.

17 D. All of the above. The medical history informs us whether or not to administer drugs. For example, do we want to treat a cow with mastitis if she has had it several times previously, she is suspect for Johnes, or she has been bred seven times, is still open at 500 days and giving 40 pounds of milk? These things can only be known by checking her medical history and permanent record.

18 E. All the above. **PD**

Information provided by the WVMA is intended to be general in nature. The WVMA cannot provide legal advice or formal recommendations. You should always consider consulting with your veterinarian regarding the specifics of your situation, drug use and withdrawal times.

Drug residue avoidance checklist

1 When was the last time you reviewed the drugs on your farm and how they are used?

- a. Within the last week
- b. Within the last month
- c. Within the last six months
- d. Within the last year
- e. Never

Answer: All drugs found on the farm should be covered in a protocol. Drugs on the shelves have expiration dates and need constantly monitoring. Periodically the FDA approves changes in labels, including withholding times. Your veterinarian can help review those changes with you and your VCPR team.

2 Do you have written protocols for the diseases you treat on your farm that you have reviewed/updated the last 12 months?

- a. Yes
- b. No
- c. Not sure

Answer: Protocols needs to exist for all the diseases you treat. They need to define the condition, drug protocol, records to be kept and the withdrawal times. A training plan must be developed for the employees who are going to carry out the protocols.

3 Do you have permanent treatment records for cows and calves?

- a. Yes
- b. No
- c. Not both

Answer: We need an individual animal permanent record for use in food safety, appropriate drug use and management of health issues on the farm.

4 Do you have your veterinarian review your disease incidence and treatment efficacy?

- a. Yes
- b. No
- c. Not sure

Answer: Veterinary oversight validates the VCPR, allows the VCPR team to monitor and refine protocols and SOPs, allows monitoring of drugs used on the farm, reinforces the importance of keeping records and identifies teachable moments which provides the ultimate training opportunity.

5 Do any animals receive therapy before they have received an informed diagnosis?

- a. Yes
- b. No
- c. Not sure

Answer: Every animal deserves a diagnosis before treatment is initiated. The diagnosis may identify an event where no treatment is the answer. **PD**

Figure 1 Percent positive dairy cattle (of harvested)

