

10 Common Reasons Antibiotic Contamination Occurs in Bulk Tank Milk

1. Milk from a treated cow was accidentally routed into the pipeline.

Err on the side of safety! Accidents and human error are unfortunate events but the end results (milk residues) are still violations. Treated cow identification protocols need to be farm-specific and standardized so all farm personnel can readily distinguish a medicated cow. When a cow needs medication, the first treatment step (before any medications are administered) should be the application of some form of semi-permanent identification. At least two different identification methods should be employed. These may include leg bands, chalk marks, tail tape, neck chains, or some other form of secure identification that can be easily removed when the withholding time has expired.

2. Antibiotic residues remained in the milk of a recently fresh cow (that had previously received dry cow therapy) or a treated cow longer than the presumed withholding time.

When drugs approved by the federal Food and Drug Administration (FDA) (for dry and lactating cows) are used according to the label directions, producers should follow the recommended withholding times. Extensive product evaluations by drug manufacturers have built safety factors (required by the FDA) into the established withholding times. These safety factors are 100 to 1,000 times lower than the lowest dose expected to cause a violative residue in milk. **Drugs used in an extra-label manner MUST be used within the context of a valid veterinarian-client-patient relationship.** Extra-label treatments **DO NOT** have established withdrawal times; therefore, the prescribing veterinarian must supply a withdrawal time for meat and milk sufficient to assure food safety. Administering two or more FDA-approved drugs into one cow simultaneously is considered extra-label use and may result in violative residues. Even though FDA-approved medications are used according to label directions, extended withholding times may be needed for cows that calve earlier than expected, cows that are severely ill or cows that do not respond to label treatments.

3. Equipment used to milk treated cows was handled carelessly; for example, vacuum from the milk pipeline was used operate dump-milk buckets.

Milking all treated cows AFTER untreated herdmates is an important preventive measure and strongly advised. Dump-milk buckets connected to pipeline vacuum can overflow or be tipped, allowing contaminated milk to enter the system. Frequent disposal of contaminated milk from dump-buckets may reduce the potential of overflow into the pipeline.

4. Lactating cows were purchased and the new owner was unaware of recent antibiotic treatments prior to sale.

Although milk residue tests are not designed or approved for individual cow testing, milk from all purchased cows should be evaluated for residues by a test kit that detects the same drugs as the farm's milk processor. This should occur before commingling purchased-cow milk in the bulk tank. Milk from all cows testing positive should be discarded. It may be prudent to discard milk from purchased cows for at least eight milkings regardless of milk residue test results.

5. The same milking unit was used to milk an antibiotic-treated cow before milking untreated cows. The milking unit was not cleaned and sanitized between uses.

When in doubt, dump it out! Using the same milking unit on treated and untreated cows without thoroughly cleaning and sanitizing between cows is a violation of the pasteurized milk ordinance (77 ILL. ADM. CODE 775). Extremely small quantities of contaminated milk can result in bulk tank residues. Milking treated cows last is a wise practice. If facilities do not allow isolation of treated cows, a separate, labeled hospital-unit connected to a dump-bucket can be employed.

6. An antibiotic-treated dry cow was unintentionally milked.

Segregate treated dry cows from lactating cows, preferably in a separate facility. Physical isolation will reduce the potential for unintentional commingling of treated dry cows with the lactating herd. The farm-specific, two-way identification system mentioned previously should make it simple for milking personnel to easily recognize antibiotic-treated dry cows.

7. All antibiotic-treated cows were milked last, but the milk line was not diverted from the bulk tank.

Prior to milking, a treated-cow list could be hung from the bulk tank swing line. Temporary parlor (milking) down-time should occur between milking untreated herdsmates and treated cows. Even if untreated cows remain in the parlor as "placeholders," all milking units should be removed and readied for the medicated milking string. To retrieve the treated-cow list from the swing line, one must enter the milk house. Before removing the treated-cow list, pull the swing line out of the bulk tank. Use the treated-cow list to cross check the remaining cows to ensure that all treated animals have been withheld.

8. Cows drank from a medicated footbath.

The practice of using medicated foot baths to control hoof diseases has little scientific basis. Once manure accumulates in the foot bath solution, the efficacy of the medication may dramatically be reduced. Treating individual lame cows with sprays and/or corrective hoof trims may offer better results and reduce the potential for residues.

9. Medicated feed was accidentally mixed into the lactating-cow feed.

Medicated feeds should not be used to control diseases in lactating dairy cows. The diseases for which medicated feeds were developed can be controlled through improved environmental and nutritional management. If medicated feeds are used on the farm for non-lactating animals, store them in a separate facility from lactating-cow feed ingredients.

10. One quarter of a cow was treated for mastitis and withheld from the bulk tank. However, milk from the other three quarters was NOT withheld and was permitted to enter the pipeline.

All FDA-approved drugs designed for intramammary use will be absorbed into a cow's bloodstream after infusion into a quarter. The bloodstream carries the nutrients used to produce milk within the udder. Antibiotics absorbed into the bloodstream can also be transferred (along with nutrients) to all functional quarters. **Discard milk from all four quarters, regardless of which quarter was treated!**

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