

## **Avoiding antibiotic residues in milk**

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There has been a great drive to eliminate medicine residues in milk by the dairy companies and the drive for safe food by the Food Standards Agency. These are unacceptable for two reasons. Firstly, there is a potential human health hazard and secondly, antibiotic residues can interfere with the manufacturing process inhibiting yoghurt and cheese starter cultures. Residues also have serious financial implications for farmers.

Failures occur for a variety of reasons most of which are human error. Most farmers know why failures have occurred when they occur. A recent survey carried out by the Northwest Dairy Association in the US identified the reasons responsible.

This survey confirms much of what is expected. The most common cause was medicines were used off label or in combination. Off label use included increasing the dose rate, frequency and/or duration of therapy. Once you start using a combination of injectable and intramammary antibiotics that are unlicensed for such a treatment schedule, the only way that you can work out the correct withdrawal period is to test cows until they pass the residue test specified by the dairy buyer.

There are still some herds where cows are very poorly identified or not identified at all. There are farmers who know all their cows individually by sight, but when the relief milker comes in, then it can all go horribly wrong.

Many farmers do not use a dump bucket and rely on the parlour to avoid accidental transfer of milk to the bulk tank. Older or poorly maintained parlours can be real problems here, as these systems are more likely to have leaky valves.

The general assumption is that herdsmen know the correct procedures to avoid residue contamination. In the case of doubt or new milkers, it is always worth running through their procedures to ensure that they are taking all the correct precautions.

This survey shows 20% of incidents where the cause was not identified. In half of these cases there was no clear cause, and in the other half the owner was unable to give sufficient information. This in itself is very significant as if he hasn't got the information, such as treatment records, then problems are more likely to occur.

The average amount of milk discarded on farm was 5,600 litres per incident. However, if the residue violation was discovered at the receiving plant, the average amount of milk contaminated was 17,500 litres.

### **Steps to avoid contamination;**

1. Any treated animal should be clearly identified
2. Use only licensed medicines administered in accordance with veterinary advice
3. Records all treatment dates, medicines used, batch numbers together with the dosage administered, and the withdrawal periods for milk and meat
4. Follow veterinary advice on withdrawal periods. If in doubt, ask for clarification.
5. All milk from treated animals must be discarded. When treating cows with mastitis, some farmers still only discard milk from the treated quarter believing that antibiotic residues remained only in this quarter. This can cause failures.
6. Treated cows should be milked last through the parlour ensuring that the milk line is removed from the bulk tank. If this is not possible, then treated cows should be milked into a dump bucket.
7. If cows calve early, check the date on which dry cow therapy was administered. Dry cow therapy contains antibiotic that is contained in a slow release base and the withdrawal periods for some products are over seven weeks.
8. Best practice is to test all cows with a residue test after each treatment and after calving before putting the milk back into the bulk tank.

Occasionally farmers have a failure that they are unable to explain and then ask their vet to investigate further. This is very easy to do, provided there are proper treatment records. In herds where no or incomplete records of medicine usage then we are unable to investigate the incident and the farmer will have to accept liability.

One of our clients had an antibiotic failure a couple of years ago. He appealed the decision of the dairy company. He presented his medicine records, which recorded every treatment, together with his medicine purchase records, and a letter from the practice describing how he avoids residues as evidence. The records were excellent, his procedures faultless and the dairy company compensated him for the milk that they discarded.

There is increasing pressure from the consumer to ensure that all milk supplied is free from residues of antibiotic or other medicines. There is no reason why any dairy farmer should have residue failures provided he observes the principles of medicine use correctly and milks cows in a way to avoid the accidental transfer of contaminated milk into the bulk supply.

**END**

## Text Box to summarise main points to avoid residues.

### Steps to avoid residues

- ✓ Record all treatments
- ✓ Have good cow identification
- ✓ Use only licensed veterinary medicines
- ✓ Follow veterinary advice on withdrawal periods
- ✓ Identify all treated cows
- ✓ Discard all milk from treated cows
- ✓ Milk treated cows last, or use dump bucket
- ✓ Test the milk of cows which calve early
- ✓ Test all cows before the milk returns to the bulk supply

### Reason

### Percent of herds

Use of medicines off label or in combination	17.2
Poor cow identification	15.6
Accidental transfer during milking	14.2
Employee error	13.4
Milking a treated dry cow	13.1
Lack of milker training	4.1
Other	2.3
Unknown cause	20.1

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