

Buying cows – check cell count and treatment histories, examine udders

Replacement cows may be purchased to increase the size of the herd or to maintain cow numbers following culling. Typically cows and heifers are purchased through saleyards, agents, clearing sales or herd dispersals. 'Buyer beware' (caveat emptor) rules the marketplace because people rarely sell their best cows.

Introducing animals to a herd may simultaneously introduce disease. Although people often consider conditions such as Johne's disease when they purchase herd replacements or extra cows, they forget that other infectious diseases can be bought – including mastitis. One of the most common ways of bringing bacteria that cause cow-associated mastitis into a herd is in the udder of introduced cows.

Radostits et al (1999) recommend three biosecurity measures to reduce the risk of introducing mastitis pathogens:

- knowing the mastitis status of the farm of origin;
- knowing the mastitis status of the individual cows; and
- protecting the home herd until the new introductions are 'cleared'.

21.1 Buy heifers before first calving (rather than cows), where possible.

Older cows have higher rates of mastitis than younger cows because they:

- have had more exposure to mastitis bacteria and machine milking;
- are more likely to have had mastitis in a previous lactation (and this increases the risk of mastitis in the current lactation 2-4 fold); and
- may have existing udder tissue damage (Buddle et al 1987).

Conversely, heifers that have not been milked in someone else's shed are more likely to be free of pathogenic cow-associated mastitis bacteria. If only a small number of extra animals are required, heifers are the best option.

Confidence – High

Many outbreaks of mastitis are seen to follow the introduction of infected cows.

Research priority – Low

21.2 Don't buy cows unless the Bulk Milk Cell Counts from the herd of origin are available.

If cows must be introduced into a herd, farmers should be encouraged to obtain information about the mastitis status of the farm of origin before the purchase regardless of the venue (dispersal sale, saleyard etc). Farmers should not buy from vendors who are unwilling or unable to provide this information.

The type of details that can be requested are:

- 6-12 months of bulk milk cell count (BMCC) records; and
- 6-12 months of records kept for clinical mastitis cases.

As a crude guide, high BMCCs suggest current *Strep agalactiae* infection or a high prevalence of mastitis infection with any bacteria. If the BMCCs have been less than 200,000 cells/mL for the past six months, the herd of origin is unlikely, although not guaranteed, to be free of *Strep agalactiae*.

21.3 Don't buy cows unless they have Individual Cow Cell Counts.

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21.4 Ask about Dry Cow Treatment history.

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21.5 Check cows before buying them.

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21.6 Check new cows again before milking them with the herd.

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21.7 Consider having a milk sample cultured even if no abnormalities are found when you check the udder.

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21.8 Milk introduced cows last until you are confident that they are free of mastitis.

The mastitis status of individual cows may be assessed from their:

- individual cow cell count (ICCC) records;
- clinical mastitis history;
- dry cow management;
- physical examination of the udder, teat-ends and foremilk (when appropriate); and
- culture of milk samples.

ICCC are a good guide to the mastitis status of cattle although they are only available for about half of herds in Australia that participate in milk recording. Cows that have had an ICCC exceeding 250,000 cells/mL at any herd recording should not be bought. This pre-purchase test can be made even more stringent, in the favour of the person buying the cattle, by lowering the cell count to a threshold of 200,000 cells/mL. The only disadvantage of doing this is that some uninfected cattle would be rejected.

The date of treatment and name of the product must be obtained for cows that have received Dry Cow Treatment to avoid problems with antibiotic residues in milk and meat. This is very important in case cows calve early and relies on good record keeping and management in the herd of origin.

Cows should be inspected before they are purchased. This involves observation and palpation of their udders and teats, and inspection of the foremilk.

Although some groups of animals may fail pre-purchase screening protocols and be rejected, there is no guarantee that apparently normal and healthy cows

Technote 4.1 describes how to examine udders.

Technote 5.2 discusses foremilk stripping.

Technote 4.3 discusses collecting milk samples for culture.

Technote 4.10 describes antibiotic residue tests.

are disease-free. Newly introduced animals are being simultaneously exposed to changes in feed, climate, management, and a different range of micro-organisms in the environment as well as being forced to integrate into a new herd hierarchy. These stressors may increase the susceptibility of the newcomers to disease or trigger diseases that were previously inapparent. Mastitis infections that were not obvious when cows were first introduced into herds may be seen at calving.

Introduced cows should be regarded as suspect mastitis cases until they have a problem-free lactation in the new herd. Ideally they would be maintained independent of the home herd. As this is often not practical, the following actions are recommended to reduce the risk to the home herd:

- Repeat the full physical examination (palpation and foremilk inspection) before milking them with the herd.
- To be super-safe, consider sending milk samples for culture even if no abnormalities are found in the udder. A composite milk sample has about a 95% chance of detecting *Strep agalactiae* if it is present but will be much less likely to detect *Staph aureus* infection (Dinsmore et al 1991).
- Milk all newly purchased animals last or with separate equipment as a standard procedure until they have a clean bill of health.
- If there is any suspicion that the milk may contain antibiotic residue do not put the milk in the vat and consider taking samples for antibiotic testing.

21.9 Don't milk other people's cows with your herd.

Not all brought in cows are bought in. The risk of introducing mastitis by sharing milking facilities with cows from other herds is high. This includes temporarily milking 'carry over' cows for neighbours or sending cows away from your herd to be milked for a temporary period. To avoid costly mistakes it is best to maintain the principle of a closed herd at all times.

Key papers

Buddle BM, Herceg M, Ralston MJ, Pulford HD. Reinfection of bovine mammary glands following dry-cow antibiotic therapy. *Vet Microbiol* 1987;15:191-199.

Dinsmore RP, English PB, Gonzalez RN et al. Evaluation of methods for the diagnosis of *Streptococcus agalactiae* intramammary infections in dairy cattle. *J Dairy Sci* 1991;74:1521-1526.

Radostits OM, Blood DC, Gay CC. Mastitis. In: *Veterinary Medicine*, Chapter 15, 9th edition. Bailliere Tindall, London, 1999:676.