



FVE position on selective dry cow treatment in dairy cows

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Background:

Dry cow treatment is the intra-mammary administration of a long acting antibiotic preparation at the end of lactation. This is to treat for any intra-mammary bacterial infections contracted during lactation and also historically to prevent new infections. Mastitis can be very painful for dairy cows and represents economically the most important infectious disease in dairy cows

The use of dry cow management is quite variable in different countries. While in most countries by routine all cows are being treated with antibiotic dry cow treatment ('blanket dry cow treatment'), selective dry cow treatment in dairy cows has long been a common and successful practice in some other countries to avoid prophylactic use of antibiotics. Some countries or retailers, have banned the routine use of blanket dry cow treatment and/or the use of Critically Important Antibiotics (CIAs) for dry cow treatment (especially 3th and 4th generation cephalosporins). Also, some farm assurances schemes including organic farming moved to selective antibiotic dry cow treatment.

Studies show that the move from blanket dry cow treatment to selective dry cow treatment is possible without having detrimental effect on udder health during the dry period. However, care needs to be taken as wrong decisions can give unfavourable long-term effects and rise to serious animal welfare problems, and as such requires a careful and systematic udder health monitoring of dairy farms.

Most types of mastitis are seen around calving or at the start or end of the dry period and are caused either by contagious or environmental pathogens. This makes the dry off period and the period around calving high-risk time for acquisition of new bacterial infections. The type of infections also changed from mostly contagious pathogens to now mostly environmental pathogens causing mastitis.

Looking at the volumes of antibiotics used in food producing animals in the European Union (ESVAC 2018), the sales of intra-mammaries only accounts for 0.6% of the overall sales. For dairy cows however, dry off treatment is one of the most important indications for use of antibiotics. Penicillins, alone or in combination with aminoglycosides, and cephalosporins are most commonly prescribed. Some contain a combination of several active ingredients (e.g. Neomycin, Penicillin, Streptomycin).

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The current concerns over the use of antibiotics and possible implications with antimicrobial resistance (AMR) mean it is timely to review the concept of blanket dry cow treatment at the end of lactation to both prevent new infections and treat any existing infections and to move to selective dry cow treatment. It is important to change towards optimised dry cow management with integrated measures for controlled selective dry cow treatment. This should be, supported by the farm management systems allowing comprehensive decision-making thresholds and a better detection of cows at risk.

Risks for animal and public health:

The clinical consequences of AMR from dairy origin pathogens affecting humans appear small. AMR among dairy pathogens, particularly those found in milk, is likely to cause minimal human health concerns as long as the milk is pasteurized. However, there is an increasing number of people who choose to consume raw milk, which may pose an increased risk to health (see FVE position).

Routine antibiotic use e.g. dry-cow treatment, could lead to an increased level of resistant pathogens and therefore a reduced range of options for treatment in the future, to the detriment of animal health and welfare. The use of systemic antibiotic treatment at drying off is not supported by peer-review scientific literature and should be avoided.

Research has also shown that the association between AMR and systemic use of antimicrobials is much more prominent, than the association between AMR and antimicrobials administered by the intramammary route. Hence, the impact of decreased use of antimicrobials on human AMR following successful implementation of selective dry cow treatment will be minimal.

Nevertheless, in a society which is critical of antimicrobial use in farm animals and where routine prophylactic use is no longer considered acceptable, there is a need to move toward standard use of selective dry cow treatment. In support of this, experience from countries who have already adopted a national strategy of selective dry cow treatment managed to do so without detrimental effects on cattle health and welfare.

General principles of good dry cow management

- Thorough hygiene, good farm practice and management strategies should be established to minimise the development and spread of mastitis in dairy cows. Teats should be cleaned, disinfected and dried before milking and disinfected after milking. The milking machine should be maintained properly.
- Routine treatment with antibiotics at drying-off should be avoided and selective dry cow treatment should be implemented. Treatment only has to be done on the basis of clinical history of mastitis in the previous lactation, suspicion of intra-mammary infection by an individual cell count and/or a positive bacterial milk culture including isolation and preferably antimicrobial susceptibility testing (AST) and individual cow or farm risk factors (e.g. damaged teats).

- Ensure good records are kept amongst others on herd somatic cell count, individual cow somatic cell count, clinical mastitis records and rapid tests outcomes (such as bacteriology).
- The application of teat sealant and mastitis vaccines may contribute to reduce the risk of mastitis in cows not treated at drying off, when good farm and hygiene practices as part of biosecurity program in farms are established.
- Appropriate withdrawal period compliance must be ensured before the slaughter of treated animals or inclusion of milk from treated cows to the bulk milk tank. Calves shall not be fed with waste milk from cows that have been treated with antimicrobials.
- Factors influencing udder health: immune status of the cows should be optimised e.g. by optimising nutrition, husbandry or management aspects.
- Highly critically important antibiotics (CIAs) for humans or combinations of several antibiotics should only be used for dry cow treatment after a bacterial culture and AST and as last resource.
- All decisions regarding dry cow management should be made by the farm veterinarian in collaboration with the farmer.

FVE POSITION

- FVE promotes **responsible use of antibiotics for all animal use**. As much as possible, disease should be prevented by ensuring biosecurity measures and optimal nutrition, proper housing and ventilation, good management and preventive use of vaccines. **Good dry cow treatment is part of good herd management.**
- FVE believes that **'blanket dry cow treatment' should be replaced by selective dry cow treatment**, unless in extreme circumstances
- Selective dry cow treatment has to be done on the basis of clinical history of mastitis, suspicion of intra-mammary infection (by individual cell count and/or a positive bacterial milk culture including isolation and preferably AST) and individual cow or farm risk factors (e.g. damaged teats).
- FVE encourages all to **follow the general principles of good dry cow management**
- All decisions around dry cow treatment should be made by the **farm veterinarian in collaboration with the farmer** to ensure not to endanger the cows' health and welfare.
- FVE wants further **stimulate the development and use of (inter) national guidelines and best practices** in respect to dry cow treatment. FVE promotes **conversations** on selective dry cow management for the benefit of the health and welfare of all dairy cows and calves.

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