



Different scenarios for udder health management during dry period in dairy cattle

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Objective: to provide an update on current knowledge on udder health during dry period with comparing different types of management methods.

Defining the problem: Dry period is a crucial phase for the bovine mammary gland to regenerate after the end of lactation. This period is necessary to render an appropriate milk yield during the subsequent lactation and appropriate management in this period have a great impact on the incidence of clinical mastitis in the next lactation. The main objectives of dry cow therapy are as follows:

- Eliminating existing IMI present at drying off
- Preventing new IMI during the dry period and around calving

Establishment of contagious and environmental mastitis pathogens have relevance to the dry period. Two periods of increased susceptibility during the dry period have identified; 1) the first three weeks after cessation of lactation and the period immediately prior to parturition. Compared to cows receiving no treatment at drying off, cows receiving a dry cow therapy have a reduction in the frequency of new infections during the dry period and incidence of periparturient clinical mastitis. The dry period offers the best opportunity in the lactation cycle to curing existing infections for the following reasons: higher cure rates; higher doses of antibiotic can be used; Treatment duration and retention time in the udder is longer.

Different scenarios for dry cow udder management can be listed as follows:

Blanket dry cow therapy, selective dry cow therapy based on cows or quarters, systemic dry cow therapy, shortening the dry period, using teat sealants, vaccination, immune modulators, etc. Lactation is ended with either abrupt or gradual cessation of milking; these methods of milk cessation have impact on new infection at dry period.

Take home message:

- Selection of an appropriate udder health management in dry period should be done according to the following considerations: the prevalence of intramammary infections, antimicrobial resistance, economics, rules and restrictions enacted by government.
- I recommend using the teat sealant to prevent pathogen access to the mammary gland.
- Performance of dry period management can be measured in the following targets achieved: more than 80% dry period cure, less than 10% new infection and less than 8 percent clinical mastitis in first 30 days after parturition.



- Milk culture and antibiogram is recommended for determining the most appropriate dry cow therapy.
- Selection of a dry cow treatment with a significant gram negative spectrum can influence the incidence of clinical coliform mastitis in subsequent lactation.
- It is possible that applying mastitis vaccines and immune modulators within some conditions has positive effects on incidence of intramammary infection and severity of mastitis.
- Selective dry cow therapy may not be appropriate when the bulk milk SCC is over 250000 cell/ml.