Managing Dry Cows to Reduce Mastitis in the Future

Managing the dry cow group is often not a top priority on a busy dairy farm, however it is very important for the future of any farm. While dry cows are resting, the dry cow program should be hard at work. During this time, the cow is working to clear up lingering subclinical mastitis infections, preventing bacteria from entering the teat ends and boosting immunity to help prevent infections in the next lactation.

Dry cows are often placed in a back pasture or on another farm where they may not be given the attention they need. Proper dry cow management is important in preparing cows for the next lactation. Many disorders such as milk fever, displaced abomasum, retained placenta, uterine infections, lowered milk production, and clinical mastitis can be avoided.

Two important factors related to dry cow management include proper procedures for drying-off cows and a clean, dry environment. Cows are most susceptible to new mastitis infections during the first two weeks of the dry period and the two-week periods both before and after calving. Bred heifers can also contract mastitis throughout their pregnancy, but there is an increased risk two weeks prior to calving. Several factors can influence the rate of infection in your dry cows.

Dry Cow Therapy

On average, many cows in a herd may have subclinical infections present. Milk appears normal but after culturing, mastitis-causing pathogens can be detected in the milk. It is important to use an effective dry cow mastitis product on the day of dry-off in every quarter of every cow. Before treatment, pre-dip with germicidal teat dip and dry after 30-45 seconds with a clean towel.

Next, each teat end should then be cleansed with alcohol. Carefully remove the protective tip from the treatment tube cannula. Insert the cannula only partially into the teat canal. Do not insert the entire cannula. To increase your herd's ability to fight new infections, an approved teat sealant should be used for an extra barrier of protection. Following treatment/sealant, teats should be dipped with a barrier post dip. Studies have shown that 70% of cows that have a high somatic cell count at dry off can be cured during the dry period with effective dry cow management practices. It has also been found that new infections develop in 10-15% of cows that are not treated at dry off (Jones, 2009). Dry cow therapy effectively prevents new infections from developing during the early dry period.

Over the past few years, more producers are experimenting with selective dry cow treatment methods to help reduce costs associated with treatment at dry off. This method is where only some cows are treated with an approved treatment at dry off versus all cows. In order for this type of management
practice to be successful, herds must meet milk quality standards such as:

- All cows in the herd are free of contagious mastitis.
- Herd must participate in a monthly milk testing program.
- Meticulous records are kept on the farm.
- A teat sealant is used at dry off on all cows.
- Staff are well trained at managing dry cows and overall herd health.
- Dry cows are well managed in a clean, dry environment.
- Herd always has a somatic cell count (SCC) lower than 200,000.
- Herd utilizes a coliform mastitis vaccine.
- Individual quarter cultures are routinely performed to identify mastitis-causing pathogens.

If management standards are lacking in even one area, your farm may experience increased treatment costs during the next lactation due to new infections that developed during the dry period.

To evaluate the effectiveness of your dry cow program, it is important to review individual cow DHI SCC records at first test after freshening and compare to the last test in the previous lactation. A low SCC at first test date suggests that either the dry cow treatment effectively reduced any infection present or prevented new infections during the dry period. An elevated SCC at first test compared to last test of the previous lactation indicates that a new infection has developed during the dry period. If this trend continues among other cows, dry cow management procedures need to be reevaluated. These procedures could include drug resistance or antibiotic sensitivity, treatment procedures, housing, and environment. If the SCC remains high at first test day compared to last SCC of the previous lactation, either the dry cow treatment was ineffective or the infection has walled itself off with scar tissue and became resistant to the treatment, which may occur with *S. aureus* infections. In this case, we label this type of inflammation as transition chronic. A successful treatment of these animals will be very difficult.

**Housing and Environment**

Dry cows are no different than any other animal on your farm. They should be provided with an environment that will minimize exposure to dirty conditions. Dry cows need to exercise and to get off concrete. Housing plays an important factor in providing an environment with reduced bacterial populations. Filthy, damp, or muddy stalls, bedded packs, or pastures continually expose the teat end to large amounts of bacteria. When dry cows are provided a pasture or dry lot it is important to fence off all ponds, streams, swampy areas, and ditches. Cattle crossings should be built to keep cows out of water and prevent erosion of stream banks. Many cases of coliform mastitis and/or reproductive infections have developed from these types of conditions. It is also important to provide adequate shade or cooling. If only one or two shade trees are present, cows congregate under these trees on hot days. This causes considerable manure to build up over a short period of time. Manure build up causes coliform bacteria and other destructive organisms to grow as well as provides breeding ground for flies. Lack of shade can result in serious udder infections.

Flies carry several mastitis-causing organisms that can easily increase the incidence of environmental mastitis. Flies cause mastitis by biting teats, which results in damaged areas that provide a site for bacteria colonization. Elimination of fly breeding sites is one aspect of fly control. Flies breed in decaying feed or manure that has accumulated around the farm. It is important to implement a fly control program on your farm during the summer and fall. In addition, it is possible that flies can transmit mastitis from infected to uninfected cows making it important to separate dry cows from bred heifers.

Although dry cows may not be contributing to your current somatic cell count, they will be in the future. It is important to herd profitability to maintain good management practices within this group of cows to reduce the chance of mastitis.

**Reference**


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