

Manage Udder Health Over the Dry Period

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Many farms have been working through udder health issues in the past month. The stress of summer, on cows and producers, will often manifest in an increased number of clinical cases of mastitis or a generalized increased herd somatic cell count. The importance of adhering to your milking routine that includes pre-stripping, appropriate teat dip coverage has been emphasized. When investigating summer increase in somatic cell counts there is often an increase in the proportion of fresh cows with a new intramammary infection (IMI) over the dry period.

Prevention of new IMI over the dry period begins the week before dry off and stops the week after calving. A successful dry off program will allow the udder to be prepared to fend off bacterial infection and reduce the amount of stress on the cow as she changes ration, social groups, and stops milk production.

The use of mastitis vaccination given at 7 months gestation when the dry period is 45 days will start to prepare the udder to defend itself from bacterial infection. The number of options for vaccination has increased significantly in the last couple years. In addition to the traditional e-coli vaccines there are also very effective Staph and Klebsiella vaccines available for use over the dry period. These vaccines work. The relative opportunity on your farm will depend on the time of year and your common mastitis bugs. Make it standard practice to sample all new cases of mastitis. This will generate information that can be reviewed with your veterinarian to implement a vaccination strategy or focus your efforts to reduce the risk of new IMI over the dry period. The occurrence of mastitis within the first 60 days in milk could safely be attributed to a new infection over the dry period. Understanding the types of bugs affecting your herd will assist in designing a cost effective vaccination strategy.

With the immune system primed with vaccination, the next step is to get daily milk production to slow before the day of dry off. Getting cows to decrease milk production is a challenge. Regardless of dry off strategy reducing the amount of energy that cows consume prior to dry off will decrease milk production. Abrupt cessation of milking has been reported as standard practice for between 80 and 90% of cows in both American and British surveys investigating management procedures surrounding dry off. Interestingly, in 1933 abrupt cessation of milking was first reported to be an acceptable method of dry off in dairy cows milking up to 9 litres (20 pounds) of milk. The alternative method, intermittent milking will assist in reduction of milk production. Further, intermittent milking has been associated with reduced risk of new IMI in quarters that were clean at dry off while also providing the best option for managing cow comfort and welfare.

Daily milk below 20 litres per day has been associated with reduced risk of new infections over the dry period. First, cows milking more than 20 litres have delayed development of the keratin plug in the teat end. This plug forms a physical barrier to bacterial infection in the udder. Second, the concentration of lactoferrin, an iron binding enzyme that is present

in the secretions of the dry udder, prevents bacterial growth in the udder is higher in cows that have lower milk production. Although 20 litres at dry off has become the standing recommendation there are studies that argue for lower milk production in the last week before dry off.

Managing teat end health will also decrease the risk of new IMI both during lactation and at dry off. Cracked and dirty teat ends are less efficient at forming a seal to prevent infection and they are more difficult to clean to prevent contamination of the udder when dry treating.

Blanket dry cow intramammary antibiotics was first recommended in 1969. The common bugs infecting udders were different than they are now, logically we should be looking for a new solution. The data supporting selective dry cow antibiotic use is abundant and strong. These studies have shown that either quarter culture the week of dry off or an algorithm using SCC data and the number of clinical cases over the previous lactation are effective in reducing antibiotic use without reducing milk production early in the following lactation or the risk of increased SCC.

When transferring research data to use on farm it is important to recognize potential significant differences. Cleanliness at dry off is essential whether you use intramammary antibiotic or internal teat sealant. In the selective dry cow studies a research technician will have time to clean and re-clean teats until there is no visible dirt and the teat ends have been cleaned with alcohol before treatment. Dry treating cows is not a job that can be done quickly with a minimum of attention paid to detail. To attempt to replicate the results reported in these studies your attention to detail is essential. Set time aside, as much as is needed to do this properly.

The best farms will move the newly dry cow to the dry cow yard with lots of fresh bedding in groups to reduce fighting. The herds with the best results will have applied teat dip and then inspect dry cows 24 to 48 hours after dry off at milking time to make sure that none of the quarters leak. The purpose of these inspections is to assess the dry off procedure. If cows are routinely leaking then a change in target milk at dry off may be a solution. For the cows that are leaking at minimum you could re-apply teat dip to assist in protection of the gland.

Herd level management factors that have been associated with decreased risk of new IMI over the dry period include: ample fresh bedding in the early dry cow pens, sufficient space in the dry cow pens to reduce social turmoil both in area to lay down and access to the feed bunk. For herds that use pasture for dry cow housing cows are moved between pastures giving time for each pasture to re-grow between subsequent uses. If a new pasture is not available then use electric fence to make sure that cows are not creating a mud hole where they routinely lay to avoid the afternoon heat. Some farms have created a sand bedding area where they can continually refresh the sand.

As calving nears and the udder starts to fill with milk the risk of new infection of the udder increases as well. At this stage making sure that cows are clean, are not overcrowded and that they have access to sufficient bunk space and water is essential.

To improve your fresh cow udder health first determine where you are. Looking at the proportion of fresh cows calving with an SCC above 200,000 is a useful place to start. An achievable goal is to maintain 10% or less fresh cows above 200,000 SCC at first test. Finding excuses for not meeting udder health targets in the summer is easy. Start working with your veterinarian to define the challenges with your fresh cow SCC and develop a strategic plan to improve fresh cow udder health.