

Thursday, May 23, 2013

The 'Other' staph and its impact on milk quality

Edition: Final

Source: **CRYSTAL THROOP**, DVM

Section: News **Page:** 52

TYPICALLY WHEN A FIRST calf heifer calves out with flakes in the milk or shows a moderate elevation in somatic cell count on her first DHI test, the usual tendency is to point the finger at Staph aureus. In some cases, we are in the right family but blaming the wrong family member. Most developed countries now consider Coagulase-negative staphylococci (CNS) to be the leading cause of intramammary infections, especially in heifers at calving. In fact, it is the number one bug isolated on milk culture.

CNS is the general term applied to a group of about 20 species of staphylococci, excluding Staph aureus. This group is considered to be a "skin flora opportunist" as it can be normally found on the teat skin and gains entry into the teat canal at milking time. A few species of CNS can also be found free-living in the environment. Presently, culture results do not differentiate between the different species. Unlike Staph aureus, it is uncommon for CNS to spread directly from cow to cow.

The number of animals affected by CNS infections will vary between farms. The number of quarters infected with CNS typically ranges between 10 to 20%. On some farms, it can reach upwards of 40% of all quarters. CNS is usually not the major cause of clinical mastitis in a herd but mild clinical cases will occur. Many infections are subclinical with somatic cell counts typically ranging from 200,000 to 700,000/mL and can lead to a reduction in milk yield of 8.7%. Fresh heifers are most likely to develop infection. Most cases are self-limiting and will spontaneously cure within the first month of lactation. However, a few will develop persistent infections that are hard to successfully treat.

Standard milk culture can detect the presence of CNS in milk samples. Given that CNS can normally be found on the teat skin, care during sample collection must be taken to avoid contaminated and inaccurate samples. Teat ends must be disinfected with alcohol prior to sample collection and the milk should not come into contact with your hands. If you and your veterinarian are suspicious of a CNS problem, individual quarter samples are recommended over a composite sample from all quarters. A positive result from a composite sample has a higher chance of being due to contamination than a true infection, making interpretation of the results difficult.

Once diagnosed, the control strategies for CNS are similar to those for other common mastitis bugs. Research has shown that blanket dry cow therapy helps to eliminate some of the persistent CNS infections, as well as providing antibiotic coverage to prevent new infections from occurring in the early dry period.

Post-dipping with an approved product will kill many of the pathogens located on the teats, thereby reducing the likelihood of CNS gaining access to the internal structures of the gland. Post dip should be applied immediately after cluster removal at each milking. To provide proper disinfection, ensure that the dip covers the entire surface of all teats.

Ensuring good teat end condition will decrease the number of 'hiding spots' available for CNS and other mastitis bugs during udder prep and post-dipping. In the winter months,

choose a post dip with a high emollient concentration. Pay particular attention to the teat condition of those that have recently freshened as these cows are more susceptible to chapped and frozen teats. Proper milking equipment function can also have a dramatic impact on teat end health and condition.

There is a new mastitis vaccine available in Canada for E. Coli and Staph aureus. This vaccine also has a label claim for protection against CNS. Ask your veterinarian if this or other mastitis vaccines would be of benefit to your herd.

As producers continue to strive for improved milk quality, the overall effect of CNS on herd SCC and milk yield will become increasingly more apparent. Complete elimination is likely to be unattainable, but reducing the number of new cases seen will have a positive impact on your operation.

Memo: Ontario Dairy Farmer May 2013