



Environmental Mastitis

Environmental mastitis remains a major challenge for today's well managed dairies as control of contagious mastitis improves. Prevention and management of mastitis involves two key areas: resistance of the cow against the invading organism and reducing the presence of the organism at the level of the teat orifice. Environmental organisms are found in bedding, soil, walkways, on pasture or any surface with which the cow or her manure comes in contact. Organic bedding materials such as wood shavings, straw or recycled dry manure solids are common sources. Cattle that congregate in cool, shaded areas while on pasture may contaminate the ground with manure and other discharges, thus making this area a source of mastitis causing bacteria.

Environmental organisms encompass a wide range of organisms, including *Streptococcus* and related species (not *Strep. agalactiae*), *Staphylococcus* species (not *Staph. aureus*), coliforms such as *E. coli* and *Klebsiella*. Other environmental pathogens include *Pseudomonas*, *Proteus*, *Serratia* species, Gram-positive bacilli, Yeast and *Prototheca* are increasingly found as mastitis causing pathogens on some farms. These pathogens are problematic since response to antibiotic treatment or potential for spontaneous cure can vary by pathogen. Clinical cases of mastitis should be cultured and treated founded on culture results using a pathogen based treatment protocol developed in collaboration with the herd veterinarian.

Control of environmental mastitis has become the main focus of many mastitis control programs today. Much of the focus to control environmental mastitis is on milking procedures in the parlor and keeping cows clean and dry in the barn as infection can occur at any time between and during milkings. Housing, bedding and other cow contact surfaces must be clean and dry with the intention of limiting the number of mastitis causing pathogens in the cow's environment. Cow comfort is a key factor in reducing environmental risks for mastitis, thus making sure facilities are designed with the cow in mind is important, with appropriate amounts and frequent grooming of clean and dry bedding. Milking routines should be managed to reduce risk of new infections of both environmental and contagious organisms. Make sure milking equipment is in good, working order. Milking procedures should focus on milking clean, dry, well stimulated teats with appropriate monitoring of teat health and milk flow data. The best methods of prevention of environmental mastitis are to limit the number of mastitis pathogens to which the teat end is exposed.

Outbreaks of environmental mastitis should be investigated by the herd veterinarian and other milk quality consultants in order to ensure that risk factors are identified and appropriately addressed and managed.

Control of environmental mastitis involves the following management:

1. Cow comfort - Provide well designed stalls that are utilized in a correct manner by cattle.
2. Provide a clean and dry housing area with adequate bedding that is frequently groomed to remove wet and soiled bedding daily
3. Make sure outside cow areas are clean and well drained. Standing water and muddy areas must be eliminated.
4. Be sure to keep cross-over alleys, walkways and areas around waters where cows may congregate clean and free of manure which might splash up on to the udder.
5. Make sure barns are well ventilated to limit heat stress and the growth and survivability of bacteria.
6. Make sure teats are clean, sanitized, well stimulated and dried prior to attachment of the milking unit.
7. Ensure good claw alignment and support during milking. Inflatons need to be in good condition to avoid liner slips.
8. Be alert to weather conditions (hot and humid) that may initiate an outbreak of environmental mastitis.
9. Keep good records and culture all clinical cases to identify the early stages of a mastitis outbreak.