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# *Enterobacter* spp.: A Practical Summary for Controlling Mastitis

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*Enterobacter* spp. are environmental, mastitis-causing pathogens and are the least commonly isolated coliform from milk cultures. *Enterobacter* spp. are Gram-negative and similar in structure to other coliform mastitis pathogens. When grown on blood agar, *Enterobacter* spp. have been found to have a fecal odor.

Information in this publication was summarized from the National Mastitis Council's Laboratory Handbook on Bovine Mastitis (Hogan et al. 1999).

## Where are these organisms found?

Reservoirs of *Enterobacter* spp. are manure, bedding, and soil. Other sources include muddy lots or corrals, marshy or swampy areas, and pools of standing water.

## How does *Enterobacter* spp. spread to the mammary gland?

The spread of *Enterobacter* spp. occurs primarily through environmental contact, particularly when teats come in contact with manure or contaminated bedding.

## How can you prevent and control mastitis caused by *Enterobacter* spp.?

The primary way to prevent infection by *Enterobacter* spp. is by keeping cows clean and dry to decrease exposure and by employing proper teat sanitation prior to milking.

Proper milking procedures, including the use of effective pre-milking teat disinfectants and the practice of thoroughly drying teats prior to milking, will help to reduce the number of new infections. Following forestripping, the use of an effective and proven pre-milking teat disinfectant is particularly important for this mastitis-causing pathogen. The pre-milking teat disinfectant should remain on the teats for 30 seconds prior to removal with either a paper towel or a single-use, clean and dry cloth towel. Following these guidelines, the time from start of manual stimulation (forestrip or wipe) to unit attachment should be in the range of 60 to 120 seconds. This will allow the appropriate time for milk letdown.

After unit detachment, an effective and proven post-milking teat disinfectant should be applied with coverage over at least two-thirds of the teat barrel. In herds with a particular environmental mastitis problem, the use of a barrier teat dip is recommended.

Using inorganic bedding such as sand, frequently cleaning stalls, reducing overcrowding, and preventing access to wet areas will help to prevent and control *Enterobacter* spp. mastitis. Immunization of cows with a coliform mastitis vaccine, such as J5, can reduce the severity of *Enterobacter* spp. mastitis. Please consult your herd veterinarian before implementing a vaccination protocol.

## When are *Enterobacter* spp. mastitis infections most likely to occur?

New infections can occur at any time during lactation. Cows in early lactation are at an increased risk for new infections due to the increased stress and immune suppression associated with the postpartum period.

## How likely is *Enterobacter* spp. to be cured?

*Enterobacter* spp. typically do not respond well to antibiotic therapy. As a reminder, veterinary consultation is recommended prior to the start of any treatment

protocol. Due to the nature of this mastitis pathogen, emphasis needs to be placed on prevention more than treatment.

# Quick Notes

- *Enterobacter* spp. are environmental, mastitis-causing pathogens that originate from manure, bedding, and soil.
- Keeping cows clean and dry, frequently cleaning stalls, reducing overcrowding, and using inorganic bedding can prevent infection.
- Using an effective pre-dip and thoroughly drying teats prior to milking is important in preventing new infections.
- *Enterobacter* spp. do not respond well to antibiotic therapy; thus, prevention is key.

# References

Hogan, J. S., R. N. Gonzalez, R. J. Harmon, S. C. Nickerson, S. P. Oliver, J. W. Pankey, and K. L. Smith. (1999). *Laboratory Handbook on Bovine Mastitis*. Madison, WI: National Mastitis Council.

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