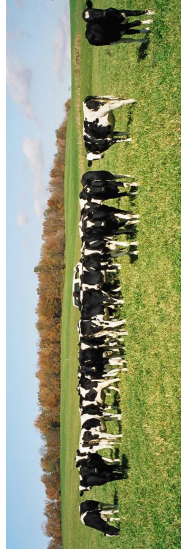


## ***Klebsiella* Mastitis**

- *Klebsiella* mastitis can be visible or invisible
- Wood based bedding products can be a source of *Klebsiella*
- Many healthy cows shed *Klebsiella* in their feces
- Any type of bedding, even sand, can become contaminated with *Klebsiella* from feces
- Manure in alleyways and holding pens is also a source of *Klebsiella*
- Treatment of *Klebsiella* mastitis is not effective
- Prevention through pen and alley hygiene is key!



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**Quality Milk**  
Production Services

## ***Klebsiella* Mastitis Prevention and Control**



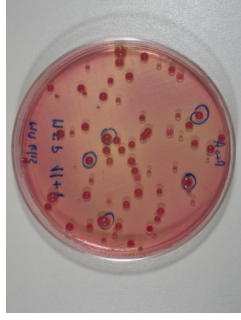
**Cornell University**  
College of Veterinary Medicine



OMPS is a program within the Animal Health Diagnostic Center, a partnership between the NYS Department of Agriculture and Markets and the College of Veterinary Medicine at Cornell University.

## **Klebsiella Mastitis**

*Klebsiella* mastitis is increasingly common in New York, the Northeast and other parts of the USA. *Klebsiella* is similar to *E. coli* in many respects, but there are differences too. Like *E. coli* mastitis, *Klebsiella* mastitis originates in the environment. Both types of mastitis can be fatal .



Cows that survive clinical *Klebsiella* mastitis often develop chronic mastitis. Milk may appear normal, but somatic cell counts are high, and repeated clinical cases may occur. Cows with chronic *Klebsiella* mastitis are often culled for high cell count, recurrent mastitis or production loss.



Vaccination does not provide much protection against *Klebsiella* mastitis and intramammary treatment with antibiotics is rarely effective. Prevention is the key to control.

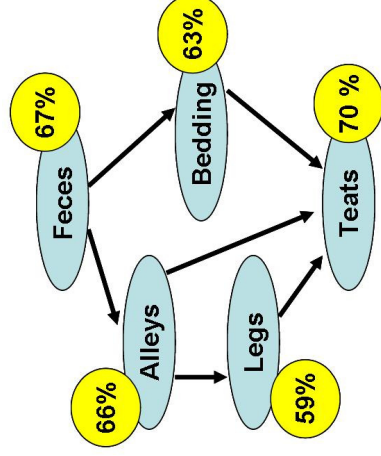
## **Sources of Klebsiella on the Dairy**

Wood based products can be a source of *Klebsiella*, particularly wet and green sawdust and shavings. But *Klebsiella* is also found in herds that bed with recycled manure or sand.



QMPS research has shown that many healthy adult cows shed *Klebsiella* in their feces. Any bedding that is contaminated with manure can contain *Klebsiella*. Nutrients and moisture in bedding enhance *Klebsiella* growth.

Manure also gets into alleyways, onto cows' legs and onto their teat skin. The chart below shows how often *Klebsiella* is found in different places



## **Prevention and Control**

Keep bedding clean. Store bedding in a clean and dry place, and keep beds as clean and dry as possible. The *Klebsiella* content of bedding can be tested if bedding quality is a concern.



Keep cows clean! Premilking teat disinfection reduces bacterial loads, but it does not remove all *Klebsiella* from teats that are dirty.

Keep alleyways and holding pens clean. Manure with *Klebsiella* may splash onto cows' udders, and it will contaminate feet and legs. When cows lie down, *Klebsiella* may be transferred from feet to teat.

Segregate cows with *Klebsiella* mastitis to avoid contamination of milking machine or environment with high bacteria loads.

