**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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This information was generated with support from the Northern New York Agricultural Development Program  
http://qmps.vet.cornell.edu/  
December 2007
**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.

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**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.

<table>
<thead>
<tr>
<th>Location</th>
<th>% of Cows Infected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feces</td>
<td>67%</td>
</tr>
<tr>
<td>Alleys</td>
<td>63%</td>
</tr>
<tr>
<td>Bedding</td>
<td>63%</td>
</tr>
<tr>
<td>Legs</td>
<td>59%</td>
</tr>
<tr>
<td>Teats</td>
<td>70%</td>
</tr>
</tbody>
</table>

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**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.