### Risk Factors

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Risk Information</th>
<th>Risk factors on this farm (level of implementation)</th>
<th>Farm Feasibility Y/N</th>
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<tbody>
<tr>
<td><strong>1.) Bedding maintenance</strong></td>
<td>Bedding materials and cleaning frequency</td>
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<td>Cleaning frequency</td>
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<td>Bedded Packs (particularly those bedded with straw) provide the highest risk for new infections by housing type.</td>
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<td>➢ Evaluate bedding quality (bedding cultures)</td>
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<td>➢ Evaluate bedding condition daily and provide additional material as needed</td>
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<td></td>
<td>➢ Remove soiled and wet bedding daily</td>
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<td>2.) Maternity Pen Maintenance</td>
<td>As the interval between pen maintenance increases the risk for new infection increases.</td>
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<td>➢ Maternity pen should be dedicated for calf delivery.</td>
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<td>➢ Pens should be cleaned and new bedding applied after each delivery</td>
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<td>3.) Cows lying down after milking</td>
<td>Teat ends remain open and susceptible to penetration by bacteria for up to two hours after milking. Those animals that lie down after milking have greater exposure and contact with environmental organisms and increased risk of infection</td>
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<td>➢ Encourage cows to stand after milking by offering fresh feed and water.</td>
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4.) **Manure and water in the alleyways and holding area**

- Cows standing in mud, manure and water are at increased risk of new infection due to splashing of material on teats.
  - Removal of manure at each milking (at least twice daily) is associated with decreased risk of new infection.

5.) **Cows Leaking Milk**

- Cows leaking milk just prior to entry into the parlor or any time between milking are at greater risk of new infection
  - Segregate cows leaking milk
  - Consider culling cows that leak milk
- Milk leaked from infected animals increases exposure of susceptible animals to infection
  - Clean stalls after each milking
6.) Milking Procedures

- **Post milking teat dipping**
  - Post milking teat dipping has been associated with increase incidence of *E. coli* infection. PMTD reduces prevalence of minor pathogens which may be protective.
  - Reconsider PMTD.
  - Contamination of teats immediately before or after milking increases risk of new infection
  - Clean holding area and alleyways often
  - Prevent over-crowding of facilities

- **Use of rubber gloves**
  - Gloved hands frequently become contaminated with milk.
  - Gloved hands should be rinsed and sanitized frequently. This is particularly true when contamination is obvious

- **Forestripping**
  - Forestripping can result in the contamination of milker’s hands and the floor.
  - Avoid forestripping.
  - Be certain to clean hands and gloves in between cows.
  - Forestripping has been shown to increase exposure of cows to Staph aureus by way of milker’s hands
  - Milkers should wear latex or nitrile gloves which are cleaned and disinfected routinely through the milking process
  - Segregate and milk Staph aureus cows separately from the rest of the herd

7.) Culling Strategy

- Often more than 50% of all clinical mastitis cases are repeat cases.
  - Establish culling strategy for cows with more than three cases of mastitis in a single lactation.
- Greater than 50% culling rate has been associated with an increase in new infection rate in Low SCC herds. This is likely associated with inadequate screening or lack of a biosecurity plan for replacements.
  - Develop a pre-purchase disease screening protocol
  - Monitor bulk tank Milk cultures regularly