
Sischo, W.M., Moore, D.A., Crudo, C., Call, D., Davis, M., Ehrlinger, J., and Wenz, J.

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Motivation, Reward and Feedback: Impact on Creating Change</td>
<td>Reduce antibiotic use by identifying and addressing worker decision strategies and motivations.</td>
</tr>
<tr>
<td>Managing Antibiotic Use by Improving Process Quality</td>
<td>Reduce metric/process variation by routinely providing process metrics feedback.</td>
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<tr>
<td>Qualities of milk to improve neonatal health</td>
<td>Describe the diversity, quantity, and consistency of oligosaccharides (OS) found in calf feeds and how they relate to calf health.</td>
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<tr>
<td>Mitigating Resistance</td>
<td>Evaluate efficacy of non-antibiotic resistance inducer molecule to reduce fecal shedding of MDR E.coli.</td>
</tr>
<tr>
<td>Dissemination Ecology of Resistance Traits and Bacteria in the Dairy Environment</td>
<td>Determine the influence of local epidemiological and ecological features on AMR diversity and transmission within the farm.</td>
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</tbody>
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**Ongoing Research**

**Who is Talking to Whom?**
- Communication networks regarding calf care differ for daily work compared to goal setting
- Middle management important link between goal setting and work
- Language and education differences between management and workers

**Survey of Calf feeds and OS as Prebiotic**
- Smaller farms feed powdered calf replacer
- Larger farms tended to feed whole milk or non saleable pasteurized milk
- Powdered calf feeds had much greater quality variability across all parameters than milk
- Calves fed milk had greater quantities of fecal Bifidobacterium, a putative probiotic

<table>
<thead>
<tr>
<th>Type of Calf Feed</th>
<th>Total Solids</th>
<th>Osmolality (mOsm/kg)</th>
<th>Total Bacteria (CFU/ml)</th>
<th>Bifidobacterium Recovered from Calf Fecals (CFU/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk (N=9)</td>
<td>Max=12.8</td>
<td>Max=322</td>
<td>Max=32,400</td>
<td>Max= 761,400,000</td>
</tr>
<tr>
<td></td>
<td>Min=9.2</td>
<td>Min=222</td>
<td>Min=1</td>
<td>Min=0</td>
</tr>
<tr>
<td></td>
<td>Median=11.5</td>
<td>Median=274</td>
<td>Median=285</td>
<td>Median=34,830,000</td>
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<tr>
<td>Replacer (N=13)</td>
<td>Max=19</td>
<td>Max=534</td>
<td>Max=1,833,333</td>
<td>Max=639,900,000</td>
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<tr>
<td></td>
<td>Min=7</td>
<td>Min=183</td>
<td>Min=18</td>
<td>Min=405</td>
</tr>
<tr>
<td></td>
<td>Median=15.5</td>
<td>Median=384</td>
<td>Median=243</td>
<td>Median=7,614,000</td>
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<tr>
<td>Replacer Plus Milk (N=25)</td>
<td>Max=20.2</td>
<td>Max=701</td>
<td>Max=6,473,333</td>
<td>Max=388,800,000</td>
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<tr>
<td></td>
<td>Min=8</td>
<td>Min=177</td>
<td>Min=0</td>
<td>Min=0</td>
</tr>
<tr>
<td></td>
<td>Median=12.4</td>
<td>Median=290</td>
<td>Median=5,800</td>
<td>Median=3,645,000</td>
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</tbody>
</table>