Four hundred and sixty-three Holstein bull calves were en-rolled in the trial. All of the calves had blood samples col-lected from the jugular vein. Serum samples were tested for immunoglobulin concentration using the zinc sulfate tur-bidity method and the whole blood tested for BVDV persistent infection. All the calves were assigned an IgG score based on their zinc sulfate turbidity results.

Calves identified by LOL staff with BRD had their respira-tory rate measured and had respiratory scoring done using a modified version of methods developed by Dr. Sheila Mc-Gurk at the University of Wisconsin. Calves with a com-bined respiratory score of 4 or higher had a deep nasal-pha-ryngeal swab (DNP) sample collected before antimicrobial drug treatment started. Each DNP swab was placed in transport media and shipped over-night to the WVDL. Samples were tested for RB-SV, BVDV, I-BRV and BoCV using multiplex real time PCR and cultured for Mycoplasma. Suspect Mycoplasma colonies were spe-ciated by the colony immunoblot method.

Calves with BRD were randomly assigned to one of two an-timicrobial drug treatment groups. Treatment one was a combination Florfenicol (40 mg/kg) and florfenicol me-thylamine (0.1 mg/kg) (Resflor Gold) antibiotic given subcuta-neously and treatment two was an Enrofloxacin (Baytril) antibiotic given subcutaneously (12.5 mg/kg). Calves that required antimicrobial treatment for BRD were re-evaluated every 72 hours post-treatment and if they were not clinically normal, they were treated a second time with the same an-timicrobial drug treatment.

Total weight gain, calf starter and milk replacer intake on a dry matter basis, treatment costs, and data to gain ratios and first treatment success rate were evaluated for the two different antimicrobial drugs with the performance data also com-pared to calves that were not treated for BRD.

### Results

<table>
<thead>
<tr>
<th>Drug</th>
<th># DNP</th>
<th>#1 Treatment Success</th>
<th>P.M. bovis (+)</th>
<th># BRSV (+)</th>
<th># BVDV (+)</th>
<th># Corona (+)</th>
<th># I-BRV (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflorgold</td>
<td>113</td>
<td>57*</td>
<td>83</td>
<td>35</td>
<td>72</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Baytril</td>
<td>99</td>
<td>33*</td>
<td>82</td>
<td>28</td>
<td>0</td>
<td>73</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>212</td>
<td>90</td>
<td>165</td>
<td>63</td>
<td>1</td>
<td>145</td>
<td>11</td>
</tr>
</tbody>
</table>

**1st Treatment Success: p < 0.01**

### Significance

The evaluation of the efficacy of two antimicrobial drugs, Resflor Gold and Baytril, in preweaned dairy calves with BRD revealed that the Resflor Gold treated calves had a higher first treatment success rate (p < 0.01) and weighed more (66.9 kg vs. 63.8 kg, p < 0.01) than calves treated with Baytril (33.3%).

There was no difference in milk replacer intake between calves treated for BRD and calves not treated for BRD. However, there was no difference in milk replacer intake. It is very important to point out that there was no difference in milk replacer intake. Therefore a reduction in milk replacer intake. The inflammatory response caused by BRD has been shown to have a deleterious effect on the health and well-being of cattle suffering from BRD. The focus of BRD programs should be on reducing the risk that calves do not develop respiratory disease in the first place. An important aspect of BRD control is making sure that newborn calves receive a sufficient quanti-ty of good quality colostrum within a few hours after birth. Mycoplasma and bovine respiratory coronaviruses were found in a large proportion of the calves with BRD. There was no difference in the respiratory rate, total respiratory score and rectal temperature between the Resflor Gold and Baytril treated calves before antimicrobial drug treat-ment started. There was a significant difference (p < 0.01) in first treatment success percentage between the Resflor Gold (50.4%) and Baytril (33.3%).

### Materials and Methods

The Land O’ Lakes (LOL) Research facility located in Web-ster City, IA, received 25-260 Holstein bull calves every two months from a contract buyer in Wisconsin. The majority of the calves are 4-8 days old when they arrive. The facility staffed operations in 1974 and LOL has conduct-ed nutritional studies on over 50,000 calves since it opened. During the past 15 years, Mycoplasma bovis has reduced the value and number of saleable calves pri-marily due to arthritis and pneumonia. A study was initiated that compared the therapeutic response, milk replacer and calf starter intake, growth, treatment costs and performance of calves with bovine respiratory disease (BRD) that were treated with either Resflor Gold or Baytril and compared to calves that were not treated for BRD.

### Abstract

There is a paucity of information available on the effects of bovine respiratory disease (BRD) on the growth and performance of preweaned dairy calves where the primary pathogen causing respiratory disease was Mycoplasma bovis. Calves were randomly assigned to antimicrobial drug treatment based on their serum IgG score. Calves with BRD (confirmed by respiratory scoring) were treated ei-ther with Resflor Gold or Baytril according to the manufactur-er’s instructions with their feed intake and growth compared to calves that were not treated for respiratory disease. There was no difference in milk replacer intake and respiratory pathogens found in the Resflor Gold and Baytril treated calves. Calves treated for BRD weighed less; consumed less calf starter and had poor feed to gain ratios than calves that were not treated for respiratory disease. There was no difference in milk replacer intake between calves treated for BRD and calves not treated for BRD. Calves treated with Resflor Gold had a higher first treatment success rate (50.4%) than calves treated with Baytril (33.3%).

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