1978

Effect of Aureomycin and Rumensin on performance of finishing heifers

Jack G. Riley
Ronald V. Pope

Follow this and additional works at: https://newprairiepress.org/kaesrr

Part of the Other Animal Sciences Commons

Recommended Citation

This report is brought to you for free and open access by New Prairie Press. It has been accepted for inclusion in Kansas Agricultural Experiment Station Research Reports by an authorized administrator of New Prairie Press. Copyright 1978 Kansas State University Agricultural Experiment Station and Cooperative Extension Service. Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned. K-State Research and Extension is an equal opportunity provider and employer.
Effect of Aureomycin and Rumensin on performance of finishing heifers

Abstract
We used 210 yearling Hereford heifers to evaluate the efficacy of Aureomycin and Rumensin fed alone and in combination. Each product is cleared by the FDA for use in feedlot rations as an individual feed additive, however, additional clearance must be obtained to use the two products in combination in the same ration. Aureomycin effectively controlled live abscessed, and Rumensin improve feed efficiency by 8.7%.

Keywords
Cattlemen's Day, 1978; Report of progress (Kansas State University. Agricultural Experiment Station); 320; Beef; Aureomycin; Rumensin; Performance; Finishing heifers

Creative Commons License
This work is licensed under a Creative Commons Attribution 4.0 License.
Effect of Aureomycin and Rumensin on Performance of Finishing Heifers

Jack G. Riley and Ron Pope

Summary

We used 210 yearling Hereford heifers to evaluate the efficacy of Aureomycin\(^1\) and Rumensin\(^2\) fed alone and in combination. Each product is cleared by the FDA for use in feedlot rations as an individual feed additive, however, additional clearance must be obtained to use the two products in combination in the same ration. Aureomycin effectively controlled liver abscesses, and Rumensin improved feed efficiency by 8.7%.

Introduction

AUREOMYCIN is recognized for its ability to reduce the incidence of liver abscess in feedlot cattle. RUMENSIN has gained acceptance in feedlot rations as an additive that improves feed efficiency. Clearance from the Food and Drug Administration must be obtained before the two feed additives can legally be sold for use in the same supplement or complete feed.

Procedure

We used 210 yearling Hereford heifers in this study. They were purchased from one ranch and had been on wheat pasture as a group since the late fall of 1976 and until delivery to the beef research unit on May 8, 1977. The heifers were weighed individually and placed into either a light or heavy replicate. Heifers within each replicate were randomly allotted to 16 pens of 6 heifers per pen.

A 4 x 4 factorial design was used resulting in 16 treatments for each replicate. Aureomycin levels of 0, 70, 140, and 280 mg./head/day were factorialized across Rumensin levels of 0, 10, 20, and 30 grams per ton of complete feed. The 112-day trial began May 10 and ended August 30, 1977. Composition of the ration and supplement is shown in Table 20.1. The premises providing the Aureomycin and Rumensin were withdrawn on the 111th day, and all heifers received a non-medicated ration until September 7, 1977, at which time they were shipped to Dugdale Packing Co., St. Joseph, Missouri. Carcass and liver data was obtained for

\(^{1}\)Aureomycin is registered trademark name for chlortetracycline produced by American Cyanamid Co. Aureomycin and partial financial assistance provided by American Cyanamid Co., Princeton, NJ.

\(^{2}\)Rumensin is registered trademark name for monensin sodium produced by Elanco Products Co., Indianapolis, IN.
Results

The heifers averaged 557 pounds initially and 904 pounds after the 112-day feeding period. The effect of Aureomycin and Rumensin on daily gain and feed efficiency is shown in Table 20.2. Aureomycin did not significantly affect rate or efficiency of gain. Rumensin at 20 grams per ton significantly increased daily gain and all Rumensin levels were significantly more efficient than the controls.

Only one liver from the 48 heifers on the 140 mg. and one liver from the 48 heifers fed 280 mg. Aureomycin per head per day was condemned. The incidence of liver abscess is shown in Table 20.3.

More complete results of this study are available on request.

Table 20.1. Ration and supplement composition.

<table>
<thead>
<tr>
<th>Ration:</th>
<th>Ingredient</th>
<th>%, as fed basis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cracked corn</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>Corn silage</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Supplement</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Premix¹</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supplement:</th>
<th>lbs. per ton of supplement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soybean oilmeal</td>
<td>1000</td>
</tr>
<tr>
<td>Rolled milo</td>
<td>286</td>
</tr>
<tr>
<td>Limestone</td>
<td>300</td>
</tr>
<tr>
<td>Urea</td>
<td>200</td>
</tr>
<tr>
<td>Salt</td>
<td>150</td>
</tr>
<tr>
<td>Fat</td>
<td>30</td>
</tr>
<tr>
<td>Dyna K</td>
<td>20</td>
</tr>
<tr>
<td>Trace mineral</td>
<td>10</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>4</td>
</tr>
</tbody>
</table>

¹Premix was pulverized corn fortified with the appropriate levels of Aureomycin and/or Rumensin to provide the treatment levels specified in the experimental design. A total of 2 pounds of premix was fed per heifer per day.
Table 20.2. Effect of Aureomycin and Rumensin on performance of feedlot heifers.

<table>
<thead>
<tr>
<th>Rumensin gm/ton</th>
<th>0</th>
<th>70</th>
<th>140</th>
<th>280</th>
<th>Mean</th>
<th>ADG Eff.</th>
<th>ADG Eff.</th>
<th>ADG Eff.</th>
<th>ADG Eff.</th>
<th>ADG Eff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3.19</td>
<td>6.98</td>
<td>3.08</td>
<td>6.98</td>
<td>2.91</td>
<td>7.33</td>
<td>2.86</td>
<td>7.24</td>
<td>3.01a</td>
<td>7.13a</td>
</tr>
<tr>
<td>10</td>
<td>3.08</td>
<td>6.80</td>
<td>3.02</td>
<td>6.88</td>
<td>3.22</td>
<td>6.96</td>
<td>3.04</td>
<td>6.73</td>
<td>3.09a</td>
<td>6.84b</td>
</tr>
<tr>
<td>20</td>
<td>3.22</td>
<td>6.48</td>
<td>3.11</td>
<td>6.64</td>
<td>3.29</td>
<td>6.49</td>
<td>3.20</td>
<td>6.54</td>
<td>3.23b</td>
<td>6.52c</td>
</tr>
<tr>
<td>30</td>
<td>2.90</td>
<td>6.79</td>
<td>3.14</td>
<td>6.30</td>
<td>3.12</td>
<td>6.44</td>
<td>3.14</td>
<td>6.52</td>
<td>3.08a</td>
<td>6.51c</td>
</tr>
<tr>
<td>Mean</td>
<td>3.10</td>
<td>6.76</td>
<td>3.09</td>
<td>6.70</td>
<td>3.14</td>
<td>6.78</td>
<td>3.08</td>
<td>6.76</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a, b, c Numbers in some vertical row with different superscripts differ significantly (P<.05).

Table 20.3. Effect of Aureomycin and Rumensin on incidence of liver abscess in feedlot heifers.

<table>
<thead>
<tr>
<th>No. condemned livers per treatment group of 12 heifers</th>
<th>Aureomycin, mg./hd./day</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Rumensin gm./ton</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>Mean</td>
<td>1</td>
</tr>
</tbody>
</table>