RESEARCH SUMMARY
A University of Delaware trial evaluated the production and performance of cows fed a diet supplemented with MEGALAC® Rumen Bypass Fat or Palmit 80®, a fatty acid prill containing high levels of palmitic acid (C16:0).

Feeding rate information: 30 multiparous cows (average 45 DIM at start) were randomly assigned to one of two treatment groups. Each one was fed identical rations except for supplemental fat:

1. **Treatment 1**: Balanced ration containing Palmit 80 (1.26% of dry matter).

2. **Treatment 2**: Palmit 80 was replaced with MEGALAC (1.46% of dry matter) in order to reach an equal amount of fatty acid content.

**Trial set-up:** All cows were placed on a common diet for two weeks prior to the start of the trial to establish baseline milk for both groups.

- Daily milk weights and DMI were averaged by week for the 12-week trial period.
- Components were assessed twice weekly, and these were averaged by week.

**INCREASED MILK AND FCM PRODUCTION**

**GREATER MILK AND FCM PRODUCTION**

- 7.4 lbs. more milk on average over the 12 weeks of the study.
- 10.5 lbs. more fat-corrected milk (FCM) on average over the 12 weeks of the study.
  - Energy-corrected milk production also showed similar results.

Production persistency decreased at a faster pace in the Palmit 80 group compared to cows fed MEGALAC, especially after week six.

**HEAD-TO-HEAD: MEGALAC® OUTPERFORMS HIGH C16:0 SUPPLEMENT**

INCREASED COMPONENTS AND FEED EFFICIENCY

- Cows fed MEGALAC® produced significantly more pounds of fat and protein.
  - There was no significant difference in component percentages.
- Feed efficiency (FCM/DMI) also significantly improved in the MEGALAC group.

ECONOMIC BENEFITS

Feeding MEGALAC resulted in an improved Income Over Feed Cost (IOFC).

DIFFERENCES IN PRODUCTION PARAMETERS

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MEGALAC</th>
<th>PALMIT 80®</th>
<th>DIFFERENCE</th>
<th>P-VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMI, lb.</td>
<td>62.12</td>
<td>62.08</td>
<td>.04</td>
<td>.940</td>
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<tr>
<td>Milk, lb.</td>
<td>99.53</td>
<td>92.15</td>
<td>7.38</td>
<td>&lt;.001</td>
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<tr>
<td>FCM, lb.</td>
<td>112.47</td>
<td>101.93</td>
<td>10.54</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Fat, lb.</td>
<td>4.27</td>
<td>3.83</td>
<td>.44</td>
<td>.001</td>
</tr>
<tr>
<td>Fat, (%)</td>
<td>4.26</td>
<td>4.17</td>
<td>.09</td>
<td>.102</td>
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<tr>
<td>Protein, lb.</td>
<td>2.97</td>
<td>2.75</td>
<td>.22</td>
<td>&lt;.001</td>
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<tr>
<td>Protein, (%)</td>
<td>3.01</td>
<td>2.98</td>
<td>.03</td>
<td>.153</td>
</tr>
<tr>
<td>Other solids lb.</td>
<td>5.44</td>
<td>5.44</td>
<td>.00</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Other solids, (%)</td>
<td>5.47</td>
<td>5.58</td>
<td>.11</td>
<td>.720</td>
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<tr>
<td>FCM/DMI</td>
<td>1.81</td>
<td>1.65</td>
<td>.16</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Conclusions

- Feeding MEGALAC resulted in increased milk production, greater feed efficiency and can lead to higher IOFC.
- Results suggest there is a high risk of reducing profitability by sacrificing persistency and FCM when feeding a high C16:0 fat supplement compared to MEGALAC.
- Short-term feeding trials (less than six weeks) don’t tell the whole story. Differences in performance are not always consistent or detectible in short-term trials.¹,²,³

The results of this research trial are consistent with findings from previous on-farm demonstrations conducted with Arm & Hammer Animal Nutrition.⁴

To learn more about how MEGALAC can improve herd performance, contact your nutritionist or ARM & HAMMER® representative, visit AHDairy.com or PeakReportOnline.com, or call 1-800-526-3563 and ask for MEGALAC by name.