Comparison of bovine colostrum whey and defatted bovine colostrum supplementation on piglet post-weaning growth check

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Introduction

BOVINE COLOSTRUM (BC) = Alternative to in-feed antibiotics for the newly-weaned piglet
- High concentrations in:
  - Growth promoters
  - Anti-microbial factors
- Availability in Belgium

PREVIOUS RESULTS
BC whey: ↑ ADG, ↑ ADFI and ↓ FCR
Immuno-modulator

BUT: MECHANISM of ACTION?
HIGH PROCESSING COSTS

Comparison of Defatted BC and BC Whey

Material and Methods

Experimental design
96 newly-weaned piglets

8 x 4 piglets
"Control treatment"
Commercial Diet + 1% of bovine milk powder

8 x 4 piglets
"Defatted BC treatment"
Commercial Diet + 1% of Defatted BC powder

8 x 4 piglets
"BC Whey treatment"
Commercial Diet + 1% of BC Whey powder

Measures
- Individual Weight (n = 32)
- Ingestion of each pen (n = 8)
- Faecal microflora (n = 8) b qPCR: Escherichia coli Lactobacillus spp.

Composition of the BC supplements

<table>
<thead>
<tr>
<th>Composition (g/kg DM)</th>
<th>Defatted BC</th>
<th>BC Whey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Protein</td>
<td>765</td>
<td>688</td>
</tr>
<tr>
<td>Ash</td>
<td>56.7</td>
<td>72.0</td>
</tr>
<tr>
<td>Lactose</td>
<td>43.0</td>
<td>0.1</td>
</tr>
<tr>
<td>IgG</td>
<td>324</td>
<td>496</td>
</tr>
<tr>
<td>Lactoferrin</td>
<td>14.3</td>
<td>10.6</td>
</tr>
<tr>
<td>IGF-I</td>
<td>2.750 ng/g</td>
<td>2.500 ng/g</td>
</tr>
<tr>
<td>IGF-II</td>
<td>23 ng/g</td>
<td>26 ng/g</td>
</tr>
<tr>
<td>Insulin</td>
<td>54 ng/g</td>
<td>&lt;1 ng/g</td>
</tr>
</tbody>
</table>

Results

Growth performance

Feed intake (Week 1 PW)

Faecal microflora
No differences between the treatments

Supplementation costs

<table>
<thead>
<tr>
<th></th>
<th>Defatted BC</th>
<th>BC Whey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processing</td>
<td>50 €/kg</td>
<td>100 €/kg</td>
</tr>
<tr>
<td>Supplementation</td>
<td>1.6 €/piglet</td>
<td>3.2 €/piglet</td>
</tr>
</tbody>
</table>

Conclusion

The Defatted Bovine Colostrum is at least as good as Bovine Colostrum Whey to reduce the piglet post-weaning growth-check

Reduction by 50% of the treatment costs

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