Comparison between computerised liquid feeding and ad-libitum dry feeding for sows during lactation

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Introduction
Producers may inadvertently restrict the intake of liquid-fed lactating sows by using feed curves that do not provide sufficient feed to match their needs. This leads to excessive lactation weight loss, increased days to oestrus, reduced farrowing rate and reduced litter-size at the subsequent farrowing. The objective of this study was to determine the effect of ad-libitum dry feeding or computerised wet feeding regimens on sow feed intake, body-weight loss and piglet performance to weaning.

Experimental design
Landrace x Large White sows (n=39/trt) were blocked on litter and weight in an RCB design
Treatment 1 - Curve 1 (Figure 1)
Treatment 2 - Curve 2 (Curve 1 plus 32%)
Treatment 3 - Ad-libitum dry pelleted feed
All diets contained 14.2 MJ DE and 9.1g lysine per kg (fresh-weight)
Duration: farrowing to weaning (ca.28 days).

Results
Effect of Treatment on sow feed intake, weight loss and piglet growth

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>se</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sows</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean lactation feed intake (MJ/day)</td>
<td>70.2</td>
<td>98.2</td>
<td>80.8</td>
<td>3.06</td>
</tr>
<tr>
<td>Lactation weight loss (Kg)</td>
<td>25.3</td>
<td>15.6</td>
<td>12.8</td>
<td>3.41</td>
</tr>
<tr>
<td>Piglets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number weaned per litter</td>
<td>10.1</td>
<td>10.0</td>
<td>10.2</td>
<td>0.41</td>
</tr>
<tr>
<td>No pre-weaning deaths per litter</td>
<td>0.8</td>
<td>0.9</td>
<td>1.3</td>
<td>0.20</td>
</tr>
<tr>
<td>Mean piglet weaning weight (Kg)</td>
<td>7.7</td>
<td>7.5</td>
<td>7.6</td>
<td>0.16</td>
</tr>
<tr>
<td>CV weaning weight (%)</td>
<td>20.8</td>
<td>20.3</td>
<td>19.0</td>
<td>1.21</td>
</tr>
<tr>
<td>Pre weaning piglet ADG (g/day)</td>
<td>224</td>
<td>222</td>
<td>222</td>
<td>5.3</td>
</tr>
<tr>
<td>CV pre-weaning piglet ADG (%)</td>
<td>24.3</td>
<td>24.1</td>
<td>22.2</td>
<td>1.57</td>
</tr>
</tbody>
</table>

Effect of parity on sow feed intake, weight loss and piglet growth

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<tr>
<td>Sows</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Mean lactation feed intake (MJ/day)</td>
<td>72.5</td>
<td>89.3</td>
<td>87.4</td>
<td>3.06</td>
</tr>
<tr>
<td>Lactation weight loss (Kg)</td>
<td>30.2</td>
<td>13.9</td>
<td>9.5</td>
<td>3.41</td>
</tr>
<tr>
<td>Piglets</td>
<td></td>
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<td>Number weaned per litter</td>
<td>10.4</td>
<td>10.3</td>
<td>9.7</td>
<td>0.41</td>
</tr>
<tr>
<td>No pre-weaning deaths per litter</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>0.20</td>
</tr>
<tr>
<td>Pig Wt Weaning</td>
<td>7.5</td>
<td>7.8</td>
<td>7.6</td>
<td>0.16</td>
</tr>
<tr>
<td>CV weaning weight (%)</td>
<td>18.5</td>
<td>19.6</td>
<td>21.9</td>
<td>1.21</td>
</tr>
<tr>
<td>Pre weaning piglet ADG (g/day)</td>
<td>218</td>
<td>228</td>
<td>222</td>
<td>5.3</td>
</tr>
<tr>
<td>CV pre-weaning piglet ADG (%)</td>
<td>21.9</td>
<td>23.1</td>
<td>25.6</td>
<td>1.57</td>
</tr>
</tbody>
</table>

No Treatment X Litter Grouping interaction was observed and for this reason only the main effects are presented

Mean lactation feed intake was lower for Gilt-L1 than either of the other two litter groupings (P<0.001)
Mean lactation weight loss was higher for Gilt-L1 than either of the other two litter groupings (P<0.001)

Conclusion
- Sow lactation feed intake can be increased by using curve 2 or by ad-libitum feeding a dry pelleted diet.
- Sow body weight loss during lactation was reduced by using curve 2 or by ad-libitum feeding a dry pelleted diet.
- However, pre weaning piglet mortality tended to increase with ad-libitum dry feeding.