Large litter challenges
Geneticists are to blame where will it end
CONCLUSION

Does genetic improvement of purebred pigs translate into phenotypic improvement of production pigs?

1. Yes. Genetic superiority resulted in the expected phenotypic superiority in production herds.

2. However, expressivity varied between herds!
Do large litters give challenges?
Conclusion

- $h^2$ and $t$ for litter quality traits are low to moderate
- Genetic correlations between litter quality traits and fertility are moderate

**Genetic correlations**

<table>
<thead>
<tr>
<th></th>
<th>LBP</th>
<th>SBP</th>
<th>TBP</th>
<th>WP</th>
<th>LW</th>
<th>Birth weight</th>
<th>SDB</th>
<th>#&lt;1kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live born</td>
<td>0.62±</td>
<td>0.92±</td>
<td>0.49±</td>
<td>0.27±</td>
<td>-0.38±</td>
<td>0.14±</td>
<td>0.37±</td>
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<tr>
<td></td>
<td>0.26</td>
<td>0.05</td>
<td>0.23</td>
<td>0.21*</td>
<td>0.16</td>
<td>0.23*</td>
<td>0.21*</td>
<td></td>
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</tbody>
</table>
Are farmers good observers?
<table>
<thead>
<tr>
<th>Category</th>
<th>Scoring breeders (n)</th>
<th>Scoring based on individual birth weights (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>388</td>
<td>328</td>
</tr>
<tr>
<td>2</td>
<td>324</td>
<td>1,151</td>
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<tr>
<td>3</td>
<td>1,075</td>
<td>1,093</td>
</tr>
<tr>
<td>4</td>
<td>1,551</td>
<td>759</td>
</tr>
</tbody>
</table>
Can we PREVENT problems?
Increased birth weight is caused by an increased placenta size

- Piglet birth weight increased linearly which might be caused by an increased placenta width and numerically improved placenta length ($P = 0.12$) with increased dosage.
Can we CURE problems?
CONCLUSION

Can milk replacer reduce mortality in large litters without compromising litter weaning weight?

YES: Milk replacer could reduce mortality in large litters and increase litter weaning weight – at least in very large litters.

However, it was achieved on the expense of reduced individual weaning weight
Piglet production is only relevant because of finishers; are the challenges relevant?
Conclusions

Piglets with high birth weight grew faster and were leaner at 100 kg

Confirms large litters – performance conflict

Large variation between farms
Solutions

• Stop animal selection?
• Change breeding goal?
• Combine genetics and physiology; find the limiting factors?
• Live with it and solve problems with management?
• ....
• Organize a full session on this next year in Ghent?