Factors in early life with effects on litter size in gilts

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Development of litter size
600 Danish production herds

• Does increase in fertility overrule the effect of early management?
Project set up

- 196 Y-sows farrowing 1,246 LY gilt piglets
  - Litter size 15,9 total born piglets
- Sow parity registered
- All piglets weighed and ear tagged at birth
- Piglets raised in litters reduced to 9 or 13 piglets
  - Male piglets were transferred
  - Based on the dam having equal or odd sow number
- 1,096 piglets (88 %) were weaned

- Gilts were followed to 18 production herds
  - Some gilts were sold to other herds and missed
- Litter size in first litter was recorded
Birth weights
Distribution of weight and postnatal mortality
Problems of low birth weight piglets

- Low viability
- Low colostrum intake
- Low milk intake
- Low growth rate
- Small at weaning
- Late puberty?
Birth weight
Per cent farrowings in weaned piglets

Small: 0.6-1.44 kg: 546 weaned. 59 % farrowed
Large: 1.45-2.6 kg: 550 weaned. 53 % farrowed
Problems of low birth weight piglets

- Low viability
- Low colostrum intake
- Low milk intake
- Low growth rate
- Small at weaning
- Late puberty?
Birth weight
Effect on age at mating
Effect of birth weight on litter size

![Graph showing the effect of birth weight on litter size](image)
Conclusions

• Low birth weight increases the chance of a farrowing
  – Slow growth rate may be optimal

• Birth weight does affect subsequent litter size
  – The effect seems to be linear over birth weight
  – The effect may be affected by age/cycle number at mating

• Gilts born to gilts and sows had the same litter size
  – Despite gilt piglets being smaller

• Litter size while the gilt was nursing did not affect fertility
Thank you for your attention
Questions?
Birth weight in gilt and sow litters