

# Genetic parameters of lamb survival for Dorset, Lleyn and Texel sheep

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# Lamb Survival

- Important trait for the sheep industry
- Key factor in terms of:
  - Animal Welfare
  - Flock profitability
- Influenced by a wide range of factors
  - Genetics an important part



# Materials & Methods

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- **Survival Definition**

- Considered as a binary trait (0/1)
- Trait of the lamb (not the ewe)
- Dead = 0
  - Born dead and lambs born alive but no subsequent live weights
- Alive = 1
  - Lambs with a live weight



# Materials & Methods



- Data from performance recorded Dorset, Lleyn and Texel flocks
- Lambs born 2003 – 2013
  - Dorset – 15,433 records
  - Lleyn – 51,174 records
  - Texel – 48,995 records
- Additional analyses
  - Scottish Blackface – 173,895 records (Conington *et al.* EAAP 2014)



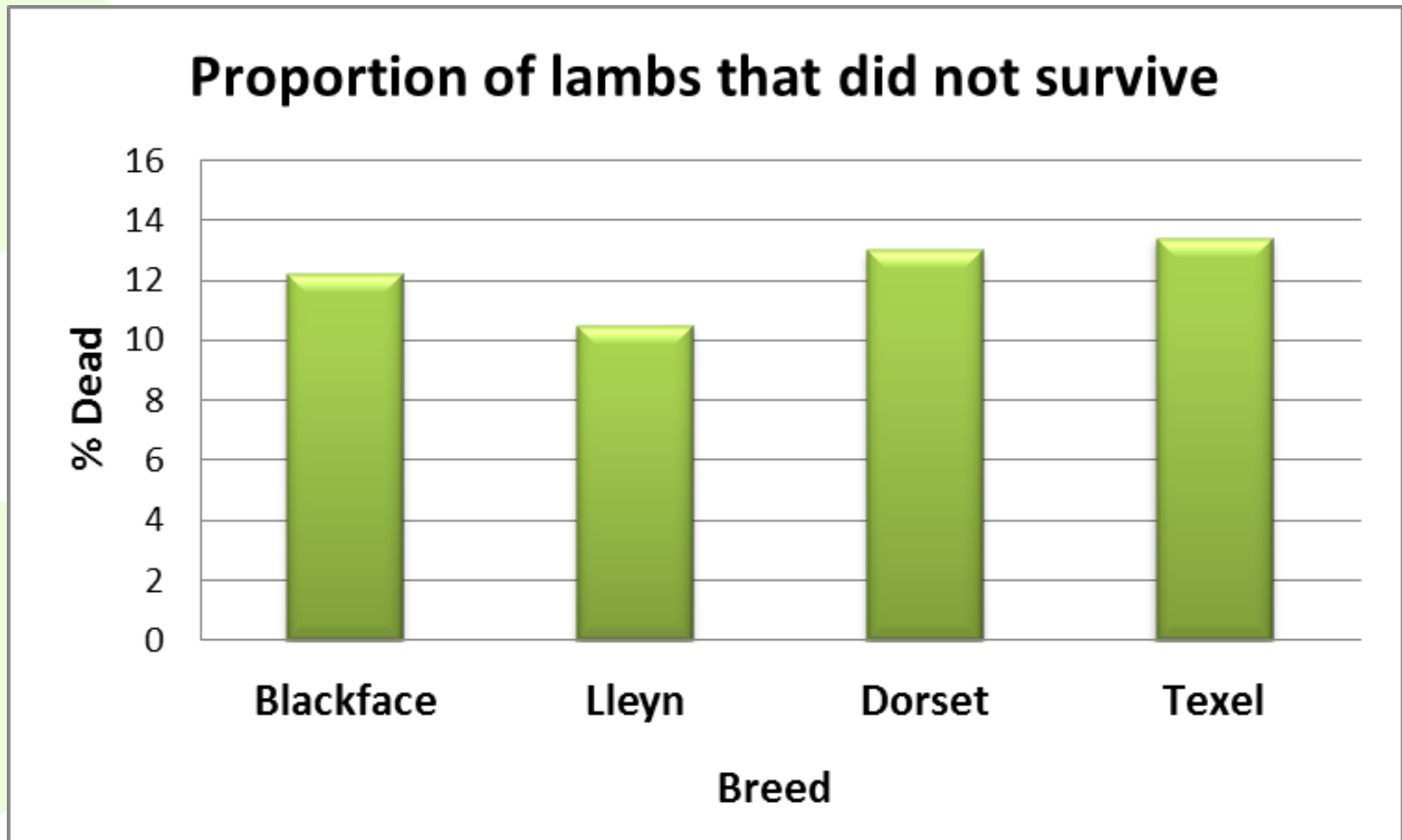
# Materials & Methods



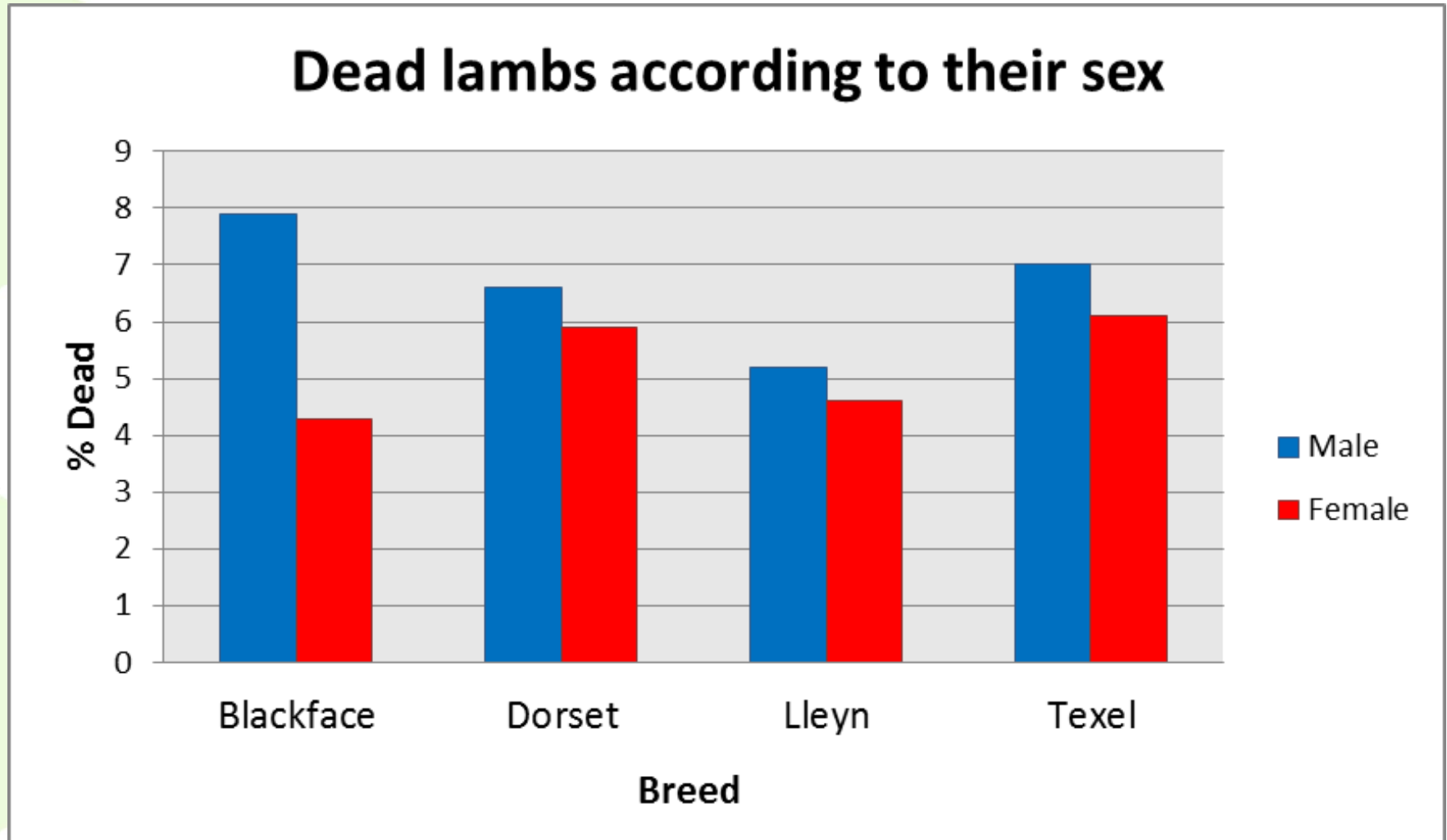
- Genetic parameters estimated using univariate analyses in ASReml. (Gilmour et. al, 2009)
- Animal model & LOGIT link function
- Model:
  - Litter size at birth + Sex + Farm + Birth year + Ewe age + Lamb birth weight + (Birth year x Birth Month)
- Heritabilities transformed



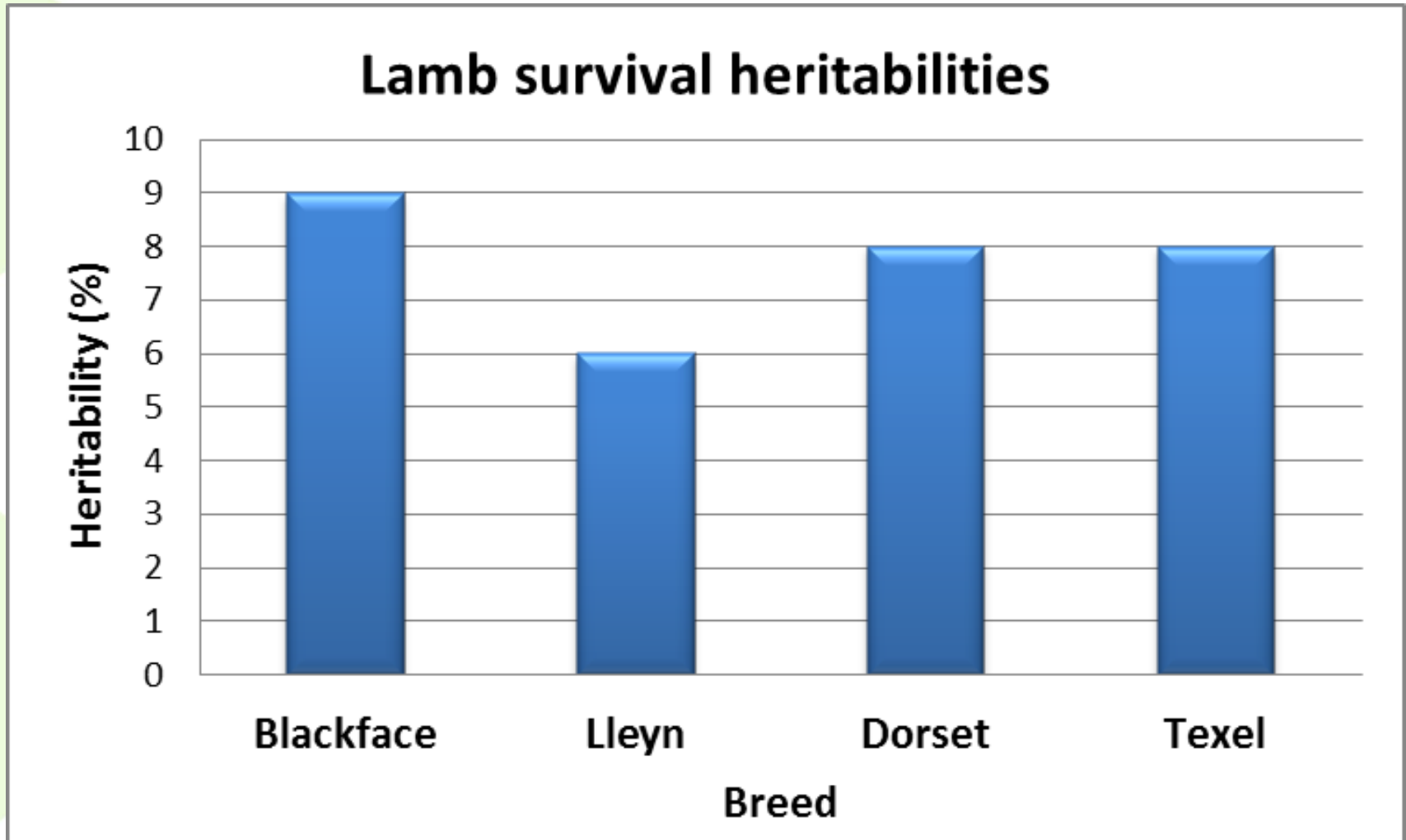
# Results



# Results



# Heritability Estimates





# Conclusions

- Lamb survival has a low heritability
- Important trait to consider as a future breeding goal
  - Can improve animal resilience and identify families with good survival
- However, are dead lambs always being recorded?



# Conclusions

- Improvements in the level of recording
  - Could increase heritability estimates and improve the rate of genetic progress.
- Is there an option in the future to incorporate pregnancy scanning data?
  - Increase data available
  - Improve knowledge of lamb deaths pre- and post-lambing



# Acknowledgements

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