

Breeding structure of the UK pedigree Limousin population



Darren Todd^{1,2}, and Tim Roughsedge¹, Mike Coffey¹ and John Woolliams²

¹SAC, RIB Building Easter Bush, Midlothian, EH25 9RG, Scotland

²Roslin Institute, RIB Building Easter Bush, Midlothian, EH25 9RG, Scotland

Email: darren.todd@sac.co.uk

Introduction

- ❖ Limousin is the UK's most numerous beef breed
- ❖ At least 75% of Limousin stock bulls in commercial herds are pedigree (Todd et al 2011)
- ❖ 90% of limousin sired progeny are slaughtered for prime beef (Todd et al 2011)
- ❖ Long term positive genetic trend in Beef Value (BV)
- ❖ **A key question for genetic improvement is ; which herds drive selection in the breed?**

Aim

- ❖ Investigate the influence of herds contributing the most sires within the pedigree population
- ❖ Quantify the impact of imported genetics
- ❖ Identify if top herds (by sire contribution) use EBV technology

Method

- Pedigree and BV records from the BASCO database analysed
- Herds categorised according to the number of sires and paternal grandsires (PGS) of bull calves registered in 2010 which they bred
- Population statistics were calculated for the top 5% of such herds
- Proportion of imported sires and semen sires calculated
- 2010 BV used to estimate selection intensity

Results

- ❖ 1270 herds registered 8492 bull calves in 2010
- ❖ 31% of these calves were bred by AI
- ❖ The top 5% (63) of herds bred 29% of these calves and 50% of the sires of these calves

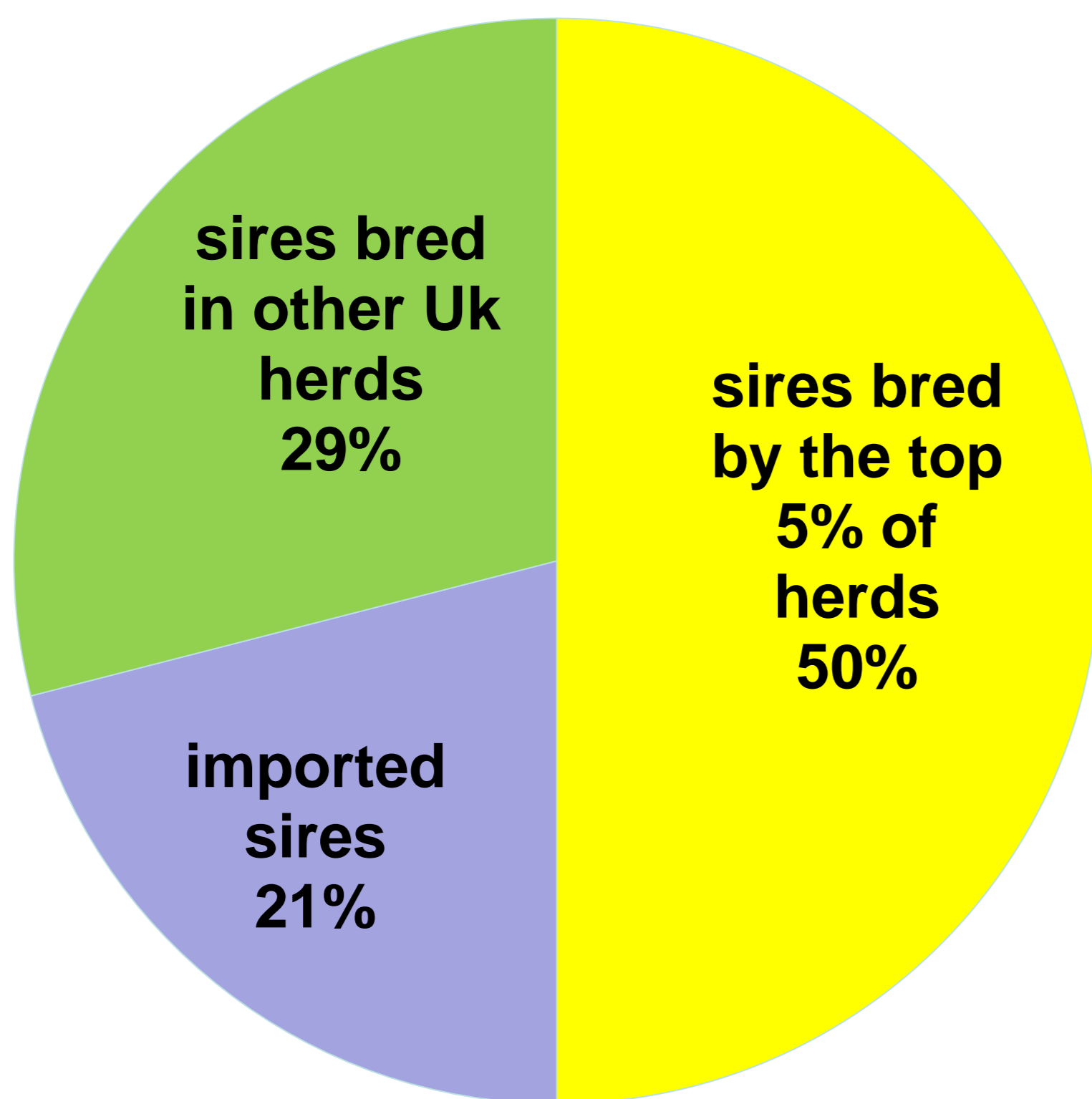


Figure 1. The origin of sires of Limousin bull calves registered in 2010

- ❖ The top 5% of herds also bred 74% of UK born parental grandsires (39% of all PGS)
- ❖ 47% of PGS were either directly imported or were the fathers of imported sires.



Table 1. Beef Value and accuracy of animals in the top 5% of herds (by contribution of sires and PGS) compared with the average UK herd.

	Top 5%	All UK herds
2010 born bull calves	25.3 (0.62)	23.5 (0.54)
Sires	27.5 (0.83)	24.0 (0.71)
Dams	21.1 (0.73)	19.2 (0.61)
Paternal grandsires	25.4 (0.91)	22.4 (0.81)

Conclusions

An elite group of bull breeding herds drives selection in the UK pedigree Limousin herd

These herds use sires with above average Beef Values. Although accuracies are higher, this is not enough to account for higher BV, particularly in PGS

Imported genetics continues to play an important role in UK Limousin

Elite Limousin herds play a key role in genetic improvement in the commercial beef herd



References

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Todd, Woolliams and Roughsedge. 2011. Animal (6) 12.

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