Status as of: 27th November, 2008

Form BEEF

DESCRIPTION OF BEEF NATIONAL GENETIC EVALUATION SYSTEM

Country (or countries) United Kingdom

Trait name: Weaning weight

DATA COLLECTION	
Breed(s)	Limousin
Trait definition	The animal live weight at 200 days of age
Method and frequency of measurement	The weaning live weight of an animal is defined given the live weights of animals between 170 and 300 days of age.
Who does the performance recording?	The breeders weight the animal on-farm
Method of collecting data	Weights are recorded using scales
Which animals get recorded?	All animals
Is birthday recorded?	Yes
Is day of recording available?	The day of recording is used to compute age but is not available in the dataset
Are the data adjusted and/or selected? If yes please describe the methodology applied	Weaning live weights are adjusted to a 200-day age constant using interpolation of the two nearest weights before and after 200 days of age where the weights are measured within the age range of 170 to 300 days. Data is not selected, all animals are recorded for weaning weight
Time period for inclusion of records	Weaning weights have been recorded since 1972
Criteria (data edits) for inclusion of records	The acceptable maximum weight range is 500 kg The acceptable age range when weighed is 170 to 300 days
Is embryo transfer applied? How are ET animals been identified?[1] Is recipient mother ID recorded?	ET does occur, but is not common in the Limousin breed. Both ET and non-ET animals have the same identification system. The recipient dam information can be recorded, although the majority of recipient dams are presently not recorded
How do you treat incomplete data?	To be included in the evaluation all animals are required to have birth month, sex, foster status, dam age and birth type known.
MODEL	
Model used for genetic evaluation[2a]	MT-AM-FR-DAM-MPE

Environmental effects[2b]	Contemporary group: initially defined by herd and management group, then collapsed based on 92 day time periods using the date of birth. Other effects are birth month: 12 levels (F), sex: 2 levels (F), foster code: 2 levels (F), birth type: 2 levels (F), dam age: continuous trait fitted as a linear and quadratic effect (F)
Use of genetic groups and relationships	A standard relationship matrix is formed based on available pedigree information. Genetic groups are based on the animal's year of birth.
Genetic parameters in the model [3]	See appendix
Adjustment for heterogeneous variance in evaluation model	No
System validation	Pre evaluation data quality checks and formation of contemporary groups. Genetic evaluation undertaken using Mix99. Post evaluation checks include adjusting for the genetic base, quality assurance checks and data summaries.
Definition of genetic reference base Next base change	Genetic reference animals are those animals that are born 2 years prior to the evaluation, plus the parents of animals born within the previous 2 years.
Assessment of index quality (computation of reliability, connection)	Reliabilities are computed using the mix99 software using the Mistztal and Wiggans (1988) calculation method.
PUBLICATION	
Expression of genetic evaluations	EBVs are produced and distributed to breeders via Signet
Criteria per official publication of evaluations	No
Number of evaluations / publications per year	3 evaluations are run annually and EBVs produced; March, August and November
Anticipated changes in the near future	None at this stage
Key reference on methodology applied	The mix99 software package is used for the genetic evaluations (Lidauer and Stranden, 1999; Vuori et al., 2006)
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1) Use Appendix II BEEF for sample ID of ET animals
2a) Use abbreviation listed in the attached list of abbreviation to define the type of model.
2b) Use abbreviation for most common effects as listed in the attached list of abbreviation indicating, also, if the effect is treated as random (R) or fixed (F).
3) Use Appendix I BEEF for heritability/genetic variance estimates.

Form BEEF

Appendix I BEEF

Parameters used in genetic evaluation

Country: United Kingdom
Main trait group: Adjusted weaning weight
Breed: Limousin

Trait(1)	Definition	h_d^2	h_m^2	$r_{g(d,m)}$	c^2	σ^2_p
wwt	Weight at 200 days of age	0.34	0.07	-0.15	0.08	789.18

h_d^2: direct heritability; h_m^2: maternal heritability; $r_{g(d,m)}$: genetic correlation between direct and maternal effects; c^2: repeatability of (maternal) permanent environmental effects; σ_P^2: phenotypic variance.
1) If you have more than one trait (e.g. a.w.w. at 120d and 210d) provide the correlations between traits.

Sample of ET animal IDs

Country: United Kingdom
Main trait group: Weaning Weight
Breed: Limousin

ET animal ID
1374604
1435452
1565043
1604555
2736313
2740270
4118260
5053576
7800710
8197045
8211187