

## STATUS AS OF *April 2021*

Form BEEF

### DESCRIPTION OF BEEF NATIONAL GENETIC EVALUATION SYSTEM

Country (or countries): Estonia

Trait group: Calving traits

#### DATA COLLECTION

<b>Breed(s)</b>	Charolais, Limousine, Aberdeen Angus, Simmental, Blonde d'Aquitaine, Hereford, Highland Cattle
<b>Trait definition</b>	Calving ease (CAE) Calving difficulty recorded on a 1 (no assistance) to 3 (veterinary assistance) scale
<b>Method and frequency of measurement</b>	
<b>Who does the performance recording?</b>	Calving ease is scored by the breeder.
<b>Method of collecting data</b>	Calving data is collected on farm
<b>Which animals get recorded?</b>	Pure breed
<b>Is birthday recorded?</b>	Yes
<b>Is day of recording available?</b>	Yes
<b>Are the data adjusted and/or selected? If yes please describe the methodology applied</b>	No
<b>Time period for inclusion of records</b>	Calving since 1999 onwards

<b>Criteria (data edits) for inclusion of records</b>	Only purebred cows with known sire and dam and known first calving age between 18 and 50 months, calving interval between 10 and 24 months
<b>Is embryo transfer applied? How are ET animals been identified?<sup>1</sup> Is recipient mother ID recorded?</b>	No
<b>How do you treat incomplete data?</b>	Records without calving interval are allowed
<b>MODEL</b>	
<b>Model used for genetic evaluation<sup>2a</sup></b>	Single trait animal model
<b>Environmental effects<sup>2b</sup></b>	Breed(F), herd* calving year(F), season(F), calving age(F), twin*sex of calf(F), calving year(F)
<b>Use of genetic groups and relationships</b>	Genetic groups are defined separately for Estonian versus foreign ancestry according to breed, sex and year of birth of the animal
<b>Genetic parameters in the model<sup>3</sup></b>	See Appendix I BEEF
<b>Adjustment for heterogeneous variance in evaluation model</b>	No
<b>System validation</b>	checks on data quality (raw data, pedigree information, etc.) checks on results: checks in EBV between evaluations
<b>Definition of genetic reference base</b>	EBV: cows born in 2015

<b>Next base change</b>	RBV (100/12): bulls by breed (with at least 10 daughters and accuracy $\geq$ 50%) born since 2005 EBV: September 2025 -> cows born in 2020
<b>Assessment of index quality (computation of reliability, connection)</b>	Reliabilities are calculated using K. Meyers method for multitrait models (1989)
<b>PUBLICATION</b>	
<b>Expression of genetic evaluations</b>	RBV calving ease
<b>Criteria per official publication of evaluations</b>	At least 10 daughters and accuracy $\geq$ 50%
<b>Number of evaluations / publications per year</b>	2 (February, September)
<b>Anticipated changes in the near future</b>	None
<b>Key reference on methodology applied</b>	
<b>Key organization: Contact person, address, phone, fax, e-mail, website</b>	Eesti Põllumajandusloomade Jõudluskontrolli AS  Mart Uba  12 F. Tuglase Str. 50094 Tartu  phone: +372 7 387 731 gsm: +372 52 16 524  <a href="mailto:mart.uba@epj.ee">mart.uba@epj.ee</a>  <a href="http://www.epj.ee">http://www.epj.ee</a>

- 
- <sup>1</sup>Use Appendix II BEEF for sample ID of ET animals <sup>2a</sup>Use abbreviation listed in the attached list of abbreviation to define the type of model. <sup>2b</sup>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). <sup>3</sup>Use Appendix I BEEF for heritability/genetic variance estimates.

**Form BEEF**

**Appendix I BEEF Parameters used in national genetic evaluation Country:**

**Main trait group: Calving traits**

**Breed(s):** Charolais, Limousine, Aberdeen Angus, Simmental, Blonde d'Aquitaine, Hereford, Highland Cattle

Trait <sup>(1)</sup>	Definition	$h_d^2$	$h_m^2$	$r_{g(d,m)}$	$c^2$	$\sigma_p^2$
Calving ease		0.10				0.045

- $h_d^2$ : 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;  $\sigma_p^2$ : phenotypic variance. <sup>(1)</sup>If you have more than one trait (e.g. AWW at 120d and 210d) provide the correlations between traits.

**Form BEEF**

**Appendix II BEEF Sample of ET animal IDs Country:**

**Main trait group:**

**Breed:**

**ET animal ID**

---



---



---



---

