

STATUS AS OF APRIL 12th, 2021

Form BEEF

DESCRIPTION OF BEEF NATIONAL GENETIC EVALUATION SYSTEM

Country (ITALY):

Trait group: AWW

DATA COLLECTION

Breed(s)	Limousine & Charolaise
Trait definition	Weight in the interval 120-210 days of age
Method and frequency of measurement	Method A, frequency 13 or 26 weeks
Who does the performance recording?	Official technician of AIA
Method of collecting data	Live weight on scale
Which animals get recorded?	All animals having less than 365 days
Is birthday recorded?	Yes
Is day of recording available?	Yes
Are the data adjusted and/or selected? If yes please describe the methodology applied	No
Time period for inclusion of records	Data from 1991
Criteria (data edits) for inclusion of records	Data above 3.5 sd by age class are excluded; data from Herd-Test-Day with only 1 record or with sd = 0 (within HTD) are excluded;
Is embryo transfer applied? How are ET animals been identified? ¹ Is recipient mother ID recorded?	ET applied, animals from ET have a flag. Recipient mother not available
How do you treat incomplete data?	Data are analysed in a multi-trait model (3-trait) with missing valued. Trait 1: weight between 30-120 days, Trait 2: weight between 120-210 , Traits 3: weight between 210-365.
MODEL	
Model used for genetic evaluation ^{2a}	MT BLUP-AM

Environmental effects^{2b}	ASEX, TWIN, AAGEW, HYS (CG), AGEDAM, AGEDAM2
Use of genetic groups and relationships	YES, 15 genetic groups based on origin, sex and year of birth
Genetic parameters in the model³	
Adjustment for heterogeneous variance in evaluation model	YES, heterogeneous variance adjusted within herd-age class
System validation	Genetic trend, correlation
Definition of genetic reference base Next base change	Average EBV of all animals with own weight used in genetic evaluation and born in the time interval 2011-2015
Assessment of index quality (computation of reliability, connection)	SEP, DEGREE OF CONNECTEDNESS AMONG CONTEMPORARY GROUPS
PUBLICATION	
Expression of genetic evaluations	Average 100 sd 10
Criteria per official publication of evaluations	Connectdness
Number of evaluations / publications per year	4 (January, May, Nov)
Anticipated changes in the near future	Inclusion of maternal effect, accounting for multiple-sire, GBLUP
Key reference on methodology applied	<p>ROSO, V.M.; SCHENKEL, F.S. AMC A computer program to assess the degree of connectedness among contemporary groups. In: World Congress on Genetics Applied to Livestock Production, 8., 2006, Belo Horizonte, MG, Brasil. Proceedings... Belo Horizonte, 2006. p.27-26.</p> <p>M. Fioretti, S. Biffani, R. Negrini, R. Bozzi Genetic improvement and population structure of Italian Limousine (2017) ASPA 22nd Congress Book of Abstracts, Italian Journal of Animal Science, 16:sup1, 1-280, DOI: 10.1080/1828051X.2017.1330232</p> <p>Schaeffer LR. Sire and Cow Evaluation Under Multiple Trait Models. J Dairy Sci. Elsevier; 1984;67: 1567–1580.</p> <p>Misztal, I., S. Tsuruta, D. A. L. Lourenco, Y. Masuda, I. Aguilar, A. Legarra, Z. Vitezica. 2018. Manual for BLUPF90 family programs.</p>

	University of Georgia. http://nce.ads.uga.edu/wiki/doku.php?id=documentation
Key organization: Contact person, address, phone, fax, e-mail, website	ANACLI, Via Ventiquattro Maggio, 44/45, 00187 Roma RM, direzione@anacli.it , biffani@ibba.cnr.it

- ¹Use 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). ³Use Appendix I BEEF for heritability/genetic variance estimates.

Form BEEF

Appendix I BEEF Parameters used in national genetic evaluation Country:

Main trait group:

Breed: Limousine

Trait ⁽¹⁾	Definition	h_d^2	h_m^2	$r_{g(d,m)}$	c^2	σ_p^2
W120	Weight within 120-210 days	0.236				696.9

- 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. AWW at 120d and 210d) provide the correlations between traits.

Breed: Charolaise

Trait ⁽¹⁾	Definition	h_d^2	h_m^2	$r_{g(d,m)}$	c^2	σ_p^2
W120	Weight within 120-210 days	0.238				717.4

