

DESCRIPTION OF NATIONAL GENETIC EVALUATION SYSTEMS

Country (or countries)	SLOVENIJA
Main trait group¹ NOTE! Only one trait group per form!	CONFORMATION
Breed(s)	HOL
Trait definition(s) and unit(s) of measurement² Attach an appendix if needed	See appendix
Method of measuring and collecting data	Linear scoring from 1 st lactation is included in genetic evaluation.
Time period for data inclusion	Scoring from 01.01.2004
Age groups (e.g. parities) included	1 st parity
Other criteria (data edits) for inclusion of records	Classifier*year >= 20 scores (calving date - birth date) <= 1200 days 5 <= (scoring date - calving date) <= 365
Criteria for extension of records (if applicable)	
Sire categories	AI
Environmental effects³, pre-adjustments	No
Method (model) of genetic evaluation³	MT – AM – BLUP sta, cwi, ran, rls, rlr, fan, fua, ruh, usu, ude, ftl, loc: F1 + F2 + F3 + R ocs, ofl, hde, bde, ang, rwi: F1 + F2 + F3 + linear regression(bcs) + R ftp, rtp, ous: F1 + F2 + F3 + F4 + R
Environmental effects³ in the genetic evaluation model	F1 – classifier*year F2 – class(birth year)*class(scoring date - calving date) F3 – calving season*year F4 – class(time interval from milking) R – herd
Adjustment for heterogeneous variance in evaluation model	
Use of genetic groups and relationships	
Blending of foreign/Interbull information in evaluation	No
Genetic parameters in the evaluation	Use Appendix GE for heritability/genetic variance estimates; for multiple-trait genetic evaluations, provide genetic correlation estimates between traits separately. Use also appendices PR, CO, BCO, SM, LO, CA, as applicable, if you participate in the international genetic evaluations of Interbull
System validation	Genetic trend validation – method 3
Expression of genetic evaluations If standardised (e.g. RBV), give standardisation formula in the appendix	$BV12 = ((BV - a) / b) * 12 + 100$ a – mean of BV b – standard deviation of BV

Definition of genetic reference base	Mean of cows born in 2010
Next base change	2016
Calculation of reliability	Yes
Criteria for official publication of evaluations	reliability ≥ 0.25
Number of evaluations / publications per year	3
Use in total merit index⁴	HOL: Stature 0.1%, Chest width 0.1%, Heel depth 0.3%, Rump angle 0.2%, Rear leg set 0.3%, Rear leg rear view 0.3%, Fore udder 0.3%, Rear udder height 0.3%, Udder support 0.3%, Udder depth 0.3%, Front teat placement 0.2%, Teat length 0.2%, Rear teat placement 0.1%
Anticipated changes in the near future	Change of genetic base
Key reference on methodology applied	Web site: http://www.bf.uni-lj.si/zootehnika/struktura/katedre-in-note/center-za-strokovno-delo-v-zivinoreji/govedo/
Key organisation: name, address, phone, fax, e-mail, web site	University of Ljubljana, Biotechnical Faculty, Department of Animal Science, Groblje 3, 1230 Domzale, Slovenija Tel. +386 1 3203 872 Fax: +386 1 7241 005 Jurij.Krsnik@bf.uni-lj.si , Klemen.Potocnik@bf.uni-lj.si

1) Either: Production (e.g. milk, fat, protein), Conformation, Health (e.g. mastitis resistance, milk somatic cell, resistance to diseases other than mastitis), Longevity, Calving (e.g. stillbirth, calving ease), Female fertility (e.g. non-return rate, interval between reproductive events, number of AI's, heat strength), Workability (e.g. milking speed, temperament), Beef production, Efficiency (e.g. body weight, energy balance, body conditioning score), or Other traits.

2) Indicate frequencies per category if the trait is categorical and specify transformation of data if practiced.

3) Use abbreviations for most common effects (see document with list of abbreviations at http://www-interbull.slu.se/service_documentation/General/list_of_abbreviations.rtf) and indicate random (R) or fixed (F).

4) Please give economic weights and indicate how they are expressed (preferably in genetic standard deviation units).

**Parameters for national genetic evaluations for conformation traits as provided to Interbull
(all breeds except Brown Swiss)**

Country (or countries): SLOVENIJA
Main trait group: Conformation
Breed(s): HOL

Trait	Definition	h^{2a}	genetic variance ^a	official proof standardisation formula ^b
Stature	cm	0.43	7.05 cm ²	a= -1.168298 b=1.730887 c=12 d=100
Chest Width	Scale 1-9	0.17	0.241	a= -0.00091 b=0.24531 c=12 d=100
Body Depth	Scale 1-9	0.199	0.306	a= -0.126291 b=0.27707 c=12 d=100
Angularity	Scale 1-9	0.08	0.145	a= -0.082554 b=0.167179 c=12 d=100
Rump Angle	Scale 1-9	0.34	0.629	a=0.024766 b=0.451152 c=12 d=100
Rump Width	Scale 1-9	0.24	0.422	a= -0.075416 b=0.296424 c=12 d=100
Rear Leg Set	Scale 1-9	0.14	0.261	a=0.014979 b=0.232462 c=12 d=100
Rear Leg Rear View	Scale 1-9	0.099	0.178	a=0.003141 b=0.180204 c=12 d=100
Foot Angle	Scale 1-9	0.15	0.265	a= -0.010892 b=0.233557 c=12 d=100
Deep Heel (Hoof Heihgt)	Scale 1-9	0.09	0.159	a= -0.023735 b= 0.176832 c=12 d=100
Fore Udder	Scale 1-9	0.17	0.311	a= -0.165985 b=0.280922 c=12 d=100
Rear Udder Height	Scale 1-9	0.196	0.353	a= -0.206329 b=0.329369 c=12 d=100
Udder Support	Scale 1-9	0.15	0.274	a= -0.182542 b=0.244369 c=12 d=100
Udder Depth	Scale 1-9	0.28	0.521	a= -0.183007 b=0.404299 c=12 d=100
Front Teat Placement	Scale 1-9	0.26	0.483	a= -0.283202 b=0.416292 c=12 d=100

Teat Length	Scale 1-9	0.33	0.604	a=0.117399 b=0.450793 c=12 d=100
Rear Teat Placement	Scale 1-9	0.29	0.527	a= -0.287665 b=0.464631 c=12 d=100
Overall Conformation Score	Points	0.18	0.841	a= -0.275075 b=0.455149 c=12 d=100
Overall Udder Score	Points	0.15	1.183	a= -0.327117 b=0.492444 c=12 d=100
Overall Feet & Leg Score	Points	0.09	0.676	a= -0.099171 b=0.342533 c=12 d=100
Locomotion	Scale 1-9	0.05	0.093	a= -0.019034 b=0.11936 c=12 d=100
Body Condition Score				

^a If repeated records are treated as separate traits, provide heritability estimates and genetic variances separately for each trait, as well as for all traits pooled, i.e. for the trait submitted to Interbull.

^b Expressed as follows:

StandEval=((eval-a)/b)*c+d where a=mean of the base adjustment, b=standard deviation of the base, c=standard deviation of expression (include sign if scale is reversed), and d=base of expression.