Introduction

The latest routine international evaluation for SNP Training for clinical mastitis took place as scheduled at the Interbull Centre. Data from six (6) countries were included in this evaluation.

International genetic evaluations for SNP Training for clinical mastitis of bulls from Canada, France, Germany, Netherlands, Switzerland, and the United States of America were computed. Brown Swiss, Holstein and Jersey breed data were included in this evaluation.

Changes in national procedures

Changes in the national genetic evaluation of SNP Training for clinical mastitis are as follows:

DEU (HOL) Changes in the phenotypic data resulted in a minor reduction of the number of daughters for some herds and daughters

bulls. Some bulls are no longer included as they go below the required threshold for numbers of

INTERBULL CHANGES COMPARED TO THE PREVIOUS ROUTINE RUN

Post-processing Windows:

Tost processing winde

According to the decision taken by ITC in Orlando (2015) to review the post-processing windows every 5 years, during the 2020 the relative working group has been re-activated and new windows have been identified.

As before, the upper bounds have been set to 0.99 as these were judged to have very little effect on evaluations while the lower values have been reduced to the 10th percentile. This reduction would provide post-processed correlations to be closer to the real estimated ones. Over the past five years, in fact, the previous adopted lower value (25th percentile) had been found too high causing estimated and post-processed correlations to differ significantly from each other. The new lower values have been applied to all breeds and traits.

The weight assigned to the magnitude of the changes tested by each country has also been revised. The new weight will allow post-processed correlations to take more in consideration the value of the new estimated ones even when no changes are applied by the countries.

The new weights are as follows:

No changes :: 2

Small changes:: 1
Big changes :: 0

More information can be read on https://interbull.org/ib/rg_procedure

DATA AND METHOD OF ANALYSIS

Data were national genetic evaluations of AI sampled bulls with at least 10 daughters or 10 EDC (for clinical mastitis and maternal calving traits at least 50 daughters or 50 EDC, and for direct calving traits at least 50 calvings or 50 EDC) in at least 10 herds. Table 1 presents the amount of data included in this Interbull evaluation for all breeds.

National proofs were first de-regressed within country and then analysed jointly with a linear model including the effects of evaluation country, genetic group of bull and bull merit. Heritability estimates used in both the de-regression and international evaluation were as in each country's national evaluation.

Table 2 presents the date of evaluation as supplied by each country

Estimated genetic parameters and sire standard deviations are shown in APPENDIX I and the corresponding number of common bulls are listed in APPENDIX II.

SCIENTIFIC LITERATURE

The international genetic evaluation procedure is based on international work

described in the following scientific publications:

International genetic evaluation computation: Schaeffer. 1994. J. Dairy Sci. 77:2671-2678 Klei, 1998. Interbull Bulletin 17:3-7

Verification and Genetic trend validation: Klei et al., 2002. Interbull Bulletin 29:178-182. Boichard et al., 1995. J. Dairy Sci. 78:431-437

Weighting factors:
Fikse and Banos, 2001. J. Dairy Sci. 84:1759-1767

Sigurdsson and G. Banos. 1995. Acta Agric. Scand. 45:207-219
Jairath et al. 1998. J. Dairy Sci. Vol. 81:550-562

Genetic parameter estimation:

Klei and Weigel, 1998, Interbull Bulletin 17:8-14

Sullivan, 1999. Interbull Bulletin 22:146-148

Post-processing of estimated genetic correlations:
Mark et al., 2003, Interbull Bulletin 30:126-135
Jorjani et al., 2003. J. Dairy Sci. 86:677-679
https://wiki.interbull.org/public/rG%20procedure?action=print

Time edits
Weigel and Banos. 1997. J. Dairy Sci. 80:3425-3430

International reliability estimation
Harris and Johnson. 1998. Interbull Bulletin 17:31-36

NEXT ROUTINE INTERNATIONAL EVALUATION

Dates for the next routine evaluation can be found on http://www.interbull.org/ib/servicecalendar.

NEXT TEST INTERNATIONAL EVALUATION

Dates for the next test run can be found on http://www.interbull.org/ib/servicecalendar.

PUBLICATION OF INTERBULL ROUTINE RUN

Results were distributed by the Interbull Centre to designated representatives in each country. The international evaluation file comprised international proofs expressed on the base and unit of each country included in the analysis. Such records readily provide more information on bull performance in various countries, thereby minimizing the need to resort to conversions.

At the same time, all recipients of Interbull results are expected to honor the agreed code of practice, decided by the Interbull Steering Committee, and only publish international evaluations on their own country scale. Evaluations expressed on another country scale are confidential and may only be used internally for research and review purposes.

PUBLICATION OF INTERBULL TEST RUN

Test evaluation results are meant for review purposes only and should not be published.

^LTable 1. National evaluation data considered in the Interbull evaluation for SNP training for clinical mastitis (December Routine Evaluation 2022). Number of records for clinical mastitis by breed

Country		GUE	HOL	JER	RDC	SIM
AUS						
BEL						
CAN			5168	259		
CHE	736		781			
CZE						
DEA						
DEU			4809			
DFS						
ESP						
EST						
FRA	408		12920			
FRM						
GBR						
HUN						
IRL						
ISR						
ITA						
JPN						
KOR						
LTU						
LVA			0704			
NLD			2704			
NOR						
NZL POL						
PRT						
SVK						
SVN						
URY						
USA			7708	837		
ZAF			7700	037		
HRV						
CAM						
No.Records	1144		34090	 1096		
Pub. Proofs	1074	0	26832	941	0	0

^LAPPENDIX I. Sire standard deviations in diagonal and genetic correlations below diagonal

BSW	cma							
	CHE	FRA					 	
CHE	11.48							
FRA	0.86	1.03						
HOL 	cma 						 	
	CAN	CHE	DEU	FRA	USA	NLD		
CAN	7.72							
CHE	0.89	10.99						

JSA 0.83 0.85 0.88 0.87 2.37
0.05 0.95 0.05 0.02 4.91
ER cma
CAN USA
CAN 8.09
JSA 0.83 2.49
LAPPENDIX II. Number of common bulls
SW
common bulls below diagonal common three quarter sib group above diagonal
CHE FRA
CHE 0 81
FRA 66 0
GUE
HOL
common bulls below diagonal
common three quarter sib group above diagonal CAN CHE DEU FRA USA NLD
CAN 0 269 827 908 1291 363
CHE 237 0 280 256 249 155
DEU 645 256 0 1053 829 603
FRA 743 229 774 0 986 581 USA 1452 216 692 798 0 387
NLD 350 144 541 486 352 0
NED 550 144 541 400 552 0
JER
JER common bulls below diagonal
JER common bulls below diagonal common three quarter sib group above diagonal
JER common bulls below diagonal common three quarter sib group above diagonal CAN USA
JER common bulls below diagonal common three quarter sib group above diagonal CAN USA
JER common bulls below diagonal common three quarter sib group above diagonal CAN USA
JER common bulls below diagonal common three quarter sib group above diagonal CAN USA
JER common bulls below diagonal common three quarter sib group above diagonal CAN USA

SIM