Introduction

The latest routine international evaluation for SNP Training for clinical mastitis took place as scheduled at the Interbull Centre. Data from five (5) countries were included in this evaluation.

International genetic evaluations for SNP Training for clinical mastitis of bulls from Canada, France, Germany, 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:

USA (BSW, JER, HOL)	Drops in information due to pedigree varification and data edits.
DEU (HOL)	Reduction in information due to routine data editing/selection procedures.

INTERBULL CHANGES COMPARED TO THE PREVIOUS ROUTINE RUN

In 2020 new post-processing windowsâ\200\231 correlations for all breeds and traits have been applied: 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. The previoulsy lower value adopted (based on the 25th percentile) had been found too high causing estimated and post-processed correlations to differ significantly from each other. It is a recommendation from the Interbull Technical Committee to review such windows every 5 years. 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. More information can be read on https://interbull.org/ib/rg_procedure

Since 2021 a new trait group has been added to the MACE evaluation, called stcm (SNP Training for clinical mastitis) evaluating the trait cma (pure clinical mastitis). New trait group codes have been issued as follows: 041 for international ebv files (.itb), 071 for parent average (ipr).

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

De-regression:
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 2024).
Number of records for clinical mastitis by breed

Country	BSW	GUE	HOL	JER	RDC	SIM
AUS						
BEL						
CAN			5474	274		

CHE	818		901			
CZE						
DEA						
DEU			5316			
DFS						
ESP						
EST						
FRA	433		13259			
FRM						
GBR						
HUN						
IRL						
ISR						
ITA						
JPN						
KOR						
LTU						
LVA						
NLD						
NOR						
NZL						
POL						
PRT						
SVK						
SVN						
URY						
USA	88		8927	1018		
ZAF						
HRV						
CAM						
No.Records	1339		33877	1292		
Pub. Proofs	1224	0	26874	1128	0	0

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

BSW cma

	CHE	FRA	USA
CHE	11.46		
FRA	0.87	0.96	
USA	0.85	0.88	2.84

HOL cma

	CAN	CHE	DEU	FRA	USA
CAN	7.87				
CHE	0.90	11.13			
DEU	0.88	0.94	9.57		
FRA	0.91	0.96	0.92	1.16	
USA	0.82	0.86	0.88	0.89	2.51

JER cma

	CAN	USA
CAN	8.37	
USA	0.83	2.55

^LAPPENDIX II. Number of common bulls

BSW

common bulls below diagonal

common three quarter sib group above diagonal

	CHE	FRA	USA
CHE	0	86	32
FRA	72	0	29
USA	28	28	0

GUE

HOL

common bulls below diagonal
common three quarter sib group above diagonal

	CAN	CHE	DEU	FRA	USA
CAN	0	310	911	957	1474
CHE	279	0	324	293	291
DEU	739	298	0	1136	924
FRA	796	272	859	0	1033
USA	1656	255	810	848	0

JER

common bulls below diagonal
common three quarter sib group above diagonal

	CAN	USA
CAN	0	105
USA	98	0

RDC

SIM