

INTRODUCTION

The latest genomic test international evaluation for dairy production traits took place as scheduled at the Interbull Centre. Data from 29 countries were included in this evaluation.

International genetic evaluations for milk, fat and protein yields of bulls were computed from:
AUS BEL CAN CHE CZE DEU DFS ESP EST FRA GBR HUN IRL ISR ITA JPN KOR LTU LVA NLD NZL POL PRT SVK SVN URY USA ZAF HRV

Holstein breed data were included in this evaluation.

BEL, CAN, DEU, ESP, FRA, AUS, DFS, GBR, ITA, NLD, POL, CZE submitted GEBVs.

fat: BEL, CAN, DEU, ESP, FRA, AUS, DFS, GBR, ITA, NLD, POL, CZE
ml: BEL, CAN, DEU, ESP, FRA, AUS, DFS, GBR, ITA, NLD, POL, CZE
pro: BEL, CAN, DEU, ESP, FRA, AUS, DFS, GBR, ITA, NLD, POL, CZE

CHANGES IN NATIONAL PROCEDURES

Changes in the national genetic evaluation of production traits are as follows:

AUS (HOL) Drop in information due to pedigree verification
DEU (HOL) Base change
FRA (HOL) Changes in information due to pedigree verification
GBR (HOL) Change in bulls' status due to re-assigning codes to bulls as more information from daughters become more available
HUN (HOL) MACE data used due to the mismatch between MACE and GMACE parameter file
NLD (HOL) Missing bulls due to the data edits and bulls were no longer qualified for publication
INTERBULL CHANGES COMPARED TO THE DECEMBER ROUTINE RUN

No changes in Interbull procedures

DATA AND METHOD OF ANALYSIS

Thirteen Holstein populations sent GEBV data for up to 38 traits, while classical EBVs for the same traits were used in the analyses. Young bull GEBVs from the GEBV providers have been converted to the scales of all countries participating in classical MACE. A bull will get a MACE EBV or a GMACE EBV but not both.

From those thirteen countries, National GEBVs of bulls less than seven years of age and with no classical MACE proofs were included for the breeding value prediction with a further requirement of either a MACE-PA or a GMACE-PA (for young genomic bulls with young genomic sires) being available.

The parameter-space approach is used for the GMACE genetic evaluations (Sullivan, 2016)

SCIENTIFIC LITERATURE

The international genetic evaluation procedure is based on international work described in the following scientific publications:

Sullivan, P.G. 2016. Defining a Parameter Space for GMACE. Interbull Bulletin 50, p 85-93.

VanRaden, P.M. and Sullivan, P.G. 2010. International genomic evaluation methods for dairy cattle. Gen. Sel. Evol. 42:7

Sullivan, P.G. and Jakobsen, J.H. 2012. Robust GMACE for young bulls methodology. Interbull Bulletin 45, Article 1.

Sullivan, P.G. 2012a. GMACE reliability approximation. Report to the GMACE working group of Interbull. GMACE_rels 2013

Sullivan, P.G. 2012b. GMACE variance estimation. Report to the GMACE working group of Interbull. GMACE_vce 2013

Sullivan, P.G. 2012c. GMACE Weighting Factors. Report to the GMACE working group of Interbull. GMACE_gedcs 2013

Jakobsen, J.H. and Sullivan, P.G. 2013. Trait specific computation of shared reference population. Reference sharing Nov 2013

NEXT ROUTINE INTERNATIONAL EVALUATION

Dates for next routine run can be found on <http://www.interbull.org/ib/servicecalendar>

NEXT TEST INTERNATIONAL EVALUATION

Dates for 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 minimising the need to resort to conversions.

At the same time, all recipients of Interbull results are expected to honour 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.

Table 1. National evaluation dates in GMACE run December 2024

Country	Date
CAN	20241201
DEU	20241203
DFS	20240813
FRA	20241204
ITA	20241101
NLD	20241201
GBR	20241111
AUS	20201207
BEL	20201201
ESP	20241119
CZE	20241118
POL	20240930

Table 2.

Number of bulls in reference population for	mil
CAN	45998.0
DEU	12609.0 49355.0
DFS	6840.0 40973.0 42028.0
FRA	5771.0 37868.0 37257.0 39727.0
ITA	40110.0 12654.0 6680.0 5269.0 42153.0
NLD	4251.0 36925.0 36389.0 34935.0 3604.0 38794.0
GBR	38990.0 13678.0 7754.0 6237.0 39489.0 4580.0 42005.0
AUS	1499.0 949.0 783.0 806.0 1321.0 811.0 1328.0 4584.0
BEL	729.0 728.0 652.0 719.0 722.0 741.0 686.0 291.0 1718.0
ESP	7843.0 42339.0 40572.0 37956.0 7678.0 36883.0 8814.0 856.0 705.0 43420.0
CZE	2136.0 2632.0 1962.0 1954.0 2099.0 1734.0 2050.0 413.0 845.0 2405.0 4064.0
POL	5553.0 35062.0 35025.0 32992.0 5352.0 32031.0 6288.0 695.0 994.0 35267.0 2635.0 36856.0

Number of bulls in reference population for fat

CAN	45998.0
DEU	12609.0 49353.0
DFS	6840.0 40973.0 42027.0

