INTRODUCTION

The latest genomic test international evaluation for calving traits took place as scheduled at the Interbull Centre. Data from 18 countries were included in this evaluation.

International genetic evaluations for calving traits of bulls were computed from:
AUS BEL CAN CHE DEU DFS FRA GBR HUN IRL ISR ITA NLD NZL USA SVK ESP POL
Holstein data were included in this evaluation.

CAN, DEU, DFS, GBR, ITA, NLD, HUN, ESP, POL submitted GEBVs.

dce: CAN, DEU, DFS, GBR, ITA, NLD, HUN, ESP, POL
dsb: CAN, DEU, DFS, , ITA, NLD, POL
mce: CAN, DEU, DFS, GBR, ITA, NLD, HUN, ESP, POL
msb: CAN, DEU, DFS, , , NLD, POL

CHANGES IN NATIONAL PROCEDURES

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

CAN (HOL) Base change, changes in the genomic reference population affecting the SNP estimates, when many MACE proofs are replaced by domestic EBV that include only local progeny of these international bulls (dropping out tprogeny data).
FRA (HOL) Base change
DEU (HOL) Base change, MCE:One bull Bull born in 2020 has a significant change in his GEBV, this is traced back to his french sire who has only daughters in France and had a significant change in MACE EBV between August and December 2023 evaluations.
NLD (HOL): Base change
GBR (HOL): Updates in data and genotypes
POL (HOL): Changes in pedigrees and in the reference population

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 April 2024

Country	Date
CAN	20240401
DFS	20240206
ITA	20240305
NLD	20240101
GBR	20240312
HUN	20231117
DEU	20240403
BEL	20201201
ESP	20240312
POL	20240216

Table 2.

Number of bulls in reference population for dce

CAN	42063.0							
DFS	6275.0	36792.0						
ITA	37090.0	5697.0	38217.0					
NLD	4082.0	31933.0	3461.0	33694.0				
GBR	37031.0	7118.0	36553.0	4399.0	39468.0			
HUN	2274.0	7725.0	2256.0	7645.0	2456.0	8795.0		
DEU	11373.0	35953.0	10826.0	32475.0	12304.0	8202.0	43192.0	
BEL	687.0	644.0	681.0	718.0	656.0	533.0	719.0	1402.0
ESP	7186.0	35406.0	6642.0	32313.0	8027.0	8022.0	37004.0	695.0 37786.0
POL	4672.0	30196.0	4186.0	28268.0	5237.0	7579.0	30471.0	824.0 30497.0 31216.0

Number of bulls in reference population for mce

CAN	34767.0				
DFS	5934.0	37577.0			
ITA	29890.0	5428.0	30852.0		
NLD	3877.0	33046.0	3313.0	34535.0	
GBR	29652.0	6775.0	29299.0	4180.0	31531.0

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HUN  2226.0  7744.0  2211.0  7637.0  2380.0  8737.0
DEU 10019.0 36758.0  9560.0 33549.0 10909.0  8197.0 42904.0
ESP  6782.0 36303.0  6311.0 33420.0  7620.0  8034.0 37789.0 38545.0
POL  4539.0 30725.0  4104.0 28868.0  5101.0  7601.0 30960.0 31010.0 31761.0

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Number of bulls in reference population for        dsb
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CAN 38783.0
DFS  6086.0 35244.0
ITA 34049.0  5502.0 35068.0
NLD  3896.0 30591.0  3307.0 32059.0
DEU 10978.0 34456.0 10426.0 31101.0 41387.0
POL  4513.0 28403.0  4022.0 26552.0 28664.0 29353.0

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Number of bulls in reference population for        msb
--------------------------------------------------------
CAN 33808.0
DFS  5810.0 36403.0
NLD  3767.0 32028.0 33415.0
DEU  9799.0 35617.0 32536.0 41596.0
POL  4415.0 29360.0 27619.0 29604.0 30347.0
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