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

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

CHANGES IN NATIONAL PROCEDURES

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

CAN (HOL) Base change
ITA (HOL) Base change, one year cut off data. Modified data editing criteria (the contemporary groups filtering criterion applies to hys within parity group (1,2,3+).), applied Snell-trasnformation, changed the statistical model. All traits run with a MT repeatability linear animal model providing to Interbull EBVs for parity 1. New genetic parameters. Changes in line with MACE
NLD (HOL) Base change, heritability corrected for MCE, in line with MACE
DEU (HOL) Base change

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 2023

Country	Date
CAN	20230401
DFS	20220207
ITA	20230308
NLD	20230401
GBR	20230309
HUN	20211122
DEU	20230404
BEL	20201201
ESP	20230314
POL	20211017

Table 2.

Number of bulls in reference population for	dce								
CAN	39015.0								
DFS	5212.0	35168.0							
ITA	36160.0	4605.0	37405.0						
NLD	4069.0	31679.0	3451.0	34096.0					
GBR	35771.0	5738.0	35544.0	4427.0	38059.0				
HUN	2269.0	7628.0	2252.0	7768.0	2494.0	9032.0			
DEU	10268.0	34344.0	9768.0	32461.0	10929.0	8203.0	41658.0		
BEL	686.0	627.0	679.0	733.0	665.0	549.0	720.0	1429.0	
ESP	6754.0	34432.0	6099.0	32305.0	7382.0	8023.0	36141.0	695.0	37111.0
POL	4665.0	29830.0	4081.0	28269.0	5217.0	7586.0	30281.0	824.0	30484.0	31221.0

Number of bulls in reference population for	mce								
CAN	31138.0								
DFS	4944.0	36021.0							
ITA	29005.0	4398.0	30018.0						

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NLD  3861.0 32738.0  3296.0 34446.0
GBR 28511.0  5491.0 28316.0  4163.0 30118.0
HUN  2214.0  7567.0  2201.0  7566.0  2369.0  8658.0
DEU  9026.0 35215.0  8560.0 33457.0  9661.0  8120.0 41445.0
POL  4521.0 30270.0  3981.0 28787.0  5053.0  7531.0 30681.0 31648.0

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Number of bulls in reference population for        dsb
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CAN 35741.0
DFS  5047.0 33665.0
ITA 33132.0  4439.0 34272.0
NLD  3882.0 30301.0  3297.0 32044.0
DEU  9897.0 32893.0  9393.0 31078.0 39919.0
POL  4503.0 28008.0  3917.0 26541.0 28473.0 29344.0

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Number of bulls in reference population for        msb
--------------------------------------------------------
CAN 30108.0
DFS  4844.0 34972.0
ITA 28148.0  4304.0 29165.0
NLD  3742.0 31775.0  3198.0 33384.0
DEU  8806.0 34207.0  8343.0 32507.0 40243.0
POL  4390.0 28979.0  3851.0 27597.0 29415.0 30313.0
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