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, , ITA, NLD, POL

CHANGES IN NATIONAL PROCEDURES

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

ITA (HOL) Decrease in reliability due to changes in bull population
ESP (HOL) Changed the reference genome and the imputing process, new check on genotypes and Interbull Method for gebv reliability. (GEBV test OK)
Sending GEBV for mce for the first time (GEBV test OK)
GBR (HOL) Some animals affected by change in genomic information

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 August 2023

Country	Date
CAN	20230801
DFS	20220808
ITA	20230704
NLD	20230801
GBR	20230710
HUN	20230721
DEU	20230808
BEL	20201201
ESP	20230710
POL	20230622

Table 2.

Number of bulls in reference population for dce

CAN	39212.0									
DFS	5297.0	35378.0								
ITA	35995.0	4606.0	37437.0							
NLD	4080.0	31666.0	3452.0	34107.0						
GBR	35943.0	5897.0	35372.0	4431.0	38333.0					
HUN	2274.0	7618.0	2254.0	7768.0	2497.0	9034.0				
DEU	10680.0	34572.0	9980.0	32479.0	11433.0	8208.0	42233.0			
BEL	688.0	619.0	679.0	733.0	666.0	549.0	720.0	1429.0		
ESP	6770.0	34428.0	6102.0	32313.0	7450.0	8023.0	36396.0	695.0	37122.0	
POL	4674.0	29828.0	4085.0	28276.0	5235.0	7586.0	30438.0	824.0	30492.0	31230.0

Number of bulls in reference population for mce

CAN	31362.0									
DFS	5034.0	36228.0								
ITA	28937.0	4419.0	30100.0							
NLD	3871.0	32719.0	3302.0	34456.0						
GBR	28697.0	5660.0	28247.0	4171.0	30398.0					
HUN	2223.0	7560.0	2207.0	7567.0	2375.0	8665.0				
DEU	9387.0	35449.0	8781.0	33472.0	10126.0	8128.0	41975.0			
ESP	6381.0	35310.0	5789.0	33340.0	7078.0	7959.0	37155.0	37852.0		
POL	4534.0	30284.0	3997.0	28796.0	5086.0	7533.0	30849.0	30912.0	31678.0	

Number of bulls in reference population for dsb

CAN	35923.0					
DFS	5130.0	33867.0				
ITA	32963.0	4440.0	34281.0			
NLD	3891.0	30286.0	3298.0	32052.0		
DEU	10291.0	33111.0	9598.0	31091.0	40470.0	
POL	4511.0	28006.0	3921.0	26548.0	28625.0	29354.0

Number of bulls in reference population for msb

CAN	30274.0					
DFS	4937.0	35161.0				
ITA	28021.0	4316.0	29232.0			
NLD	3760.0	31761.0	3208.0	33403.0		
DEU	9148.0	34422.0	8541.0	32528.0	40737.0	
POL	4409.0	28990.0	3863.0	27613.0	29568.0	30337.0