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.

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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,      POL
msb:      CAN, DEU, DFS,    , ITA, NLD,           POL
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CHANGES IN NATIONAL PROCEDURES

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

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CAN (HOL)    Base change.
DEU (HOL)    Base change.
GBR (HOL)    Missing bulls due to genotypes checks or dams failing to pass parentage validation.
ITA (HOL)    Base change. Cut off one year. Excluded bulls which are not publishable and do not belong to ITA.
             In pedigree loading excluded North America Partners bulls <2 years old.
POL (HOL)    Decrease in number of herds and daughters due to data edits caused decrease of EDC.
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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

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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 2022

Country	Date
CAN	20220401
DFS	20220301
ITA	20220310
NLD	20220401
GBR	20220304
HUN	20220127
DEU	20220405
BEL	20201201
ESP	20220310
POL	20220204

Table 2.

Number of bulls in reference population for dce

CAN	37979.0									
DFS	5059.0	34681.0								
ITA	32965.0	3774.0	33691.0							
NLD	4095.0	31697.0	3269.0	34113.0						
GBR	35180.0	5433.0	32205.0	4459.0	38048.0					
HUN	2102.0	7437.0	1883.0	7563.0	2239.0	8542.0				
DEU	8962.0	33826.0	6801.0	32433.0	9423.0	7972.0	39944.0			
BEL	686.0	629.0	675.0	732.0	665.0	512.0	719.0	1428.0		
ESP	5952.0	33898.0	4277.0	32308.0	6429.0	7821.0	34962.0	694.0	35938.0	
POL	4399.0	29430.0	3189.0	28430.0	4755.0	7457.0	29784.0	822.0	30023.0	30779.0

Number of bulls in reference population for mce

CAN	30375.0									
DFS	4828.0	36037.0								
ITA	26937.0	3668.0	27555.0							
NLD	3899.0	33204.0	3152.0	34901.0						
GBR	27832.0	5213.0	26035.0	4192.0	29209.0					
HUN	2056.0	7085.0	1855.0	7208.0	2194.0	8155.0				

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DEU  7940.0 35201.0  6182.0 33884.0  8380.0  7605.0 40443.0
POL  4272.0 30195.0  3142.0 29243.0  4621.0  7107.0 30516.0 31530.0

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Number of bulls in reference population for        dsb
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CAN 34731.0
DFS  4868.0 33057.0
ITA 30159.0  3646.0 30839.0
NLD  3877.0 30159.0  3115.0 31890.0
DEU  8579.0 32271.0  6543.0 30906.0 38123.0
POL  4213.0 27467.0  3065.0 26522.0 27855.0 28763.0

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Number of bulls in reference population for        msb
--------------------------------------------------------
CAN 28056.0
DFS  4646.0 34495.0
ITA 24917.0  3535.0 25501.0
NLD  3710.0 31758.0  3009.0 33336.0
DEU  7543.0 33725.0  5897.0 32464.0 38665.0
POL  4095.0 28454.0  3012.0 27566.0 28802.0 29734.0
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