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:

ITA (HOL) Drops in reliability due to update of information for some bulls
ESP (HOL) New GEBVS are calculated with SNPBLUP applying afterwards the f factor described by the Interbull genomic reliability method for adjusting genomic reliabilities.
GBR (HOL) Changes in status due to changes on the genotypic information being avilable for some bulls. Changes in type of proof due to updates on pedigree and daugher 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

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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 August 2021

Country	Date
CAN	20210801
DFS	20210810
ITA	20210714
NLD	20210801
GBR	20210630
HUN	20210723
DEU	20210810
BEL	20201201
ESP	20210701
POL	20210617

Table 2.

Number of bulls in reference population for dce

CAN	37082.0									
DFS	4762.0	34156.0								
ITA	32974.0	3724.0	33845.0							
NLD	4079.0	31619.0	3265.0	34019.0						
GBR	34319.0	5015.0	32201.0	4403.0	36637.0					
HUN	2024.0	7378.0	1874.0	7554.0	2151.0	8457.0				
DEU	8069.0	33219.0	6758.0	32283.0	8377.0	7832.0	38705.0			
BEL	691.0	629.0	680.0	733.0	665.0	513.0	715.0	1434.0		
ESP	5485.0	33375.0	4226.0	32236.0	5815.0	7746.0	34181.0	694.0	35198.0	
POL	4174.0	29015.0	3200.0	28354.0	4398.0	7413.0	29309.0	829.0	29549.0	30301.0

Number of bulls in reference population for mce

CAN	29455.0									
DFS	4520.0	35529.0								
ITA	26876.0	3609.0	27594.0							
NLD	3868.0	33113.0	3143.0	34788.0						
GBR	26867.0	4793.0	25885.0	4133.0	28041.0					
HUN	1968.0	7020.0	1840.0	7195.0	2092.0	8054.0				
DEU	7073.0	34622.0	6038.0	33732.0	7370.0	7460.0	39257.0			
POL	4109.0	29814.0	3207.0	29157.0	4274.0	7060.0	30078.0	31157.0		

Number of bulls in reference population for dsb

CAN 33865.0
DFS 4576.0 32583.0
ITA 30167.0 3597.0 30990.0
NLD 3859.0 30083.0 3111.0 31799.0
DEU 7723.0 31714.0 6500.0 30775.0 36966.0
POL 3994.0 27106.0 3075.0 26453.0 27448.0 28345.0

Number of bulls in reference population for msb

CAN 27174.0
DFS 4335.0 34004.0
ITA 24854.0 3469.0 25535.0
NLD 3681.0 31680.0 2998.0 33236.0
DEU 6716.0 33166.0 5756.0 32325.0 37540.0
POL 3935.0 28090.0 3074.0 27492.0 28393.0 29380.0