INTRODUCTION

The latest genomic routine international evaluation for calving traits took place as scheduled at the Interbull Centre. Data from 16 countries were included in this evaluation.

International genetic evaluations for calving traits of bulls from Australia, Austria-Germany, Belgium, Canada, Denmark-Finland-Sweden, France, Germany, Hungary, Ireland, Israel, Italy, Netherlands, Norway, Switzerland, the United Kingdom, and the United States of America were computed. Holstein data were included in this evaluation.

BEL, CAN, DEU, DFS, GBR, ITA, NLD, HUN submitted GEBVs.

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

CHANGES IN NATIONAL PROCEDURES

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

NLD (HOL) New added edc from a new validation affecting GREL and SD

BEL (HOL) Same data as August but after correcting some run bugs and removing some previous adjustments

HUN (HOL) Changes affecting genomic EDC

INTERBULL CHANGES COMPARED TO THE AUGUST ROUTINE RUN

Starting with the December 2019 evaluation, the GMACE software was updated to ensure GMACE reliabilities are always at least 1 point higher than the corresponding reliabilities of MACE parent averages. This update affects bulls from countries with extremely low national genomic reliabilities for a given trait. The vast majority of GMACE results were unaffected by the update.

DATA AND METHOD OF ANALYSIS

Eleven 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 eleven 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 routine 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 December 2019

Country	Date
CAN	20191201
DFS	20191105
ITA	20191112
NLD	20191201
GBR	20191009
HUN	20191115
DEU	20191203
BEL	20190901

Table 2.

Number of bulls in reference population for dce

CAN	34974.0						
DFS	3774.0	30319.0					
ITA	31462.0	2920.0	32080.0				
NLD	3691.0	29099.0	2859.0	31345.0			
GBR	32126.0	3839.0	30403.0	3813.0	33811.0		
HUN	1669.0	6845.0	1518.0	7057.0	1686.0	7740.0	
DEU	5624.0	29584.0	4623.0	29558.0	5688.0	7161.0	33376.0
BEL	1625.0	1083.0	1545.0	1190.0	1253.0	762.0	1285.0	2645.0

Number of bulls in reference population for mce

CAN	28260.0

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DFS  3598.0 31010.0
ITA 26004.0  2857.0 26498.0
NLD  3496.0 29818.0  2762.0 31348.0
GBR 25640.0  3686.0 24860.0  3564.0 26412.0
HUN  1632.0  6462.0  1495.0  6675.0  1652.0  7324.0
DEU  5100.0 30339.0  4286.0 30284.0  5185.0  6779.0 33729.0

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Number of bulls in reference population for        dsb
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CAN 32229.0
DFS  3626.0 28850.0
ITA 29019.0  2838.0 29617.0
NLD  3513.0 27646.0  2757.0 29242.0
DEU  5409.0 28193.0  4491.0 28156.0 31856.0

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Number of bulls in reference population for        msb
-----------------------------------------------------
CAN 26371.0
DFS  3468.0 29806.0
ITA 24298.0  2774.0 24775.0
NLD  3360.0 28638.0  2669.0 30060.0
DEU  4920.0 29193.0  4157.0 29143.0 32470.0
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