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.

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dce: BEL, CAN, DEU, DFS, GBR, ITA, NLD, HUN
dsb:      CAN, DEU, DFS,    , ITA, NLD
mce: BEL, CAN, DEU, DFS, GBR, ITA, NLD, HUN
msb:      CAN, DEU, DFS,    , ITA, NLD
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CHANGES IN NATIONAL PROCEDURES

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

DEU HOL   -Introduced a mixed genomic reference population for German Holstein routine genomic evaluation
           -Base change

CAN HOL   -Base change

FRA HOL   -Base change

ITA HOL   -Base change

INTERBULL CHANGES COMPARED TO THE DECEMBER ROUTINE RUN

No changes in Interbull procedures

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 April 2019

Country Date

CAN   20190401
DFS   20190305
ITA   20190311
NLD   20190401
GBR   20190305
HUN   20190314
DEU   20190402
BEL   20181201
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Table 2.

Number of bulls in reference population for   dce

CAN 33692.0
DFS 3319.0 29645.0
ITA 30442.0 2608.0 31006.0
NLD 3330.0 28534.0 2654.0 30698.0
GBR 30959.0 3410.0 29382.0 3460.0 32500.0
HUN 1379.0 6412.0 1263.0 6634.0 1375.0 7217.0
DEU 4126.0 28749.0 3535.0 28802.0 4174.0 6645.0 31518.0
BEL 1467.0   989.0 1395.0 1106.0 1096.0   619.0 1160.0 2463.0

Number of bulls in reference population for   mce

CAN 27248.0

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DFS  3167.0 30293.0
ITA 25107.0  2557.0 25551.0
NLD  3155.0 29200.0  2558.0 30660.0
GBR 24727.0  3280.0 23977.0  3232.0 25403.0
HUN  1355.0  6036.0  1243.0  6258.0  1353.0  6816.0
DEU  3850.0 29468.0  3346.0 29485.0  3924.0  6270.0 32066.0
BEL  1443.0   987.0  1381.0  1070.0  1036.0   617.0  1157.0  2212.0
       ------------------------------------------------------
       Number of bulls in reference population for        dsb
       ------------------------------------------------------
CAN 30995.0
DFS  3197.0 28284.0
ITA 27986.0  2542.0 28532.0
NLD  3183.0 27185.0  2568.0 28714.0
DEU  3958.0 27462.0  3426.0 27505.0 30138.0

       ------------------------------------------------------
       Number of bulls in reference population for        msb
       ------------------------------------------------------
CAN 25376.0
DFS  3063.0 29269.0
ITA 23422.0  2493.0 23856.0
NLD  3047.0 28196.0  2484.0 29549.0
DEU  3722.0 28503.0  3259.0 28515.0 31020.0
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