INTRODUCTION

The latest genomic routine international evaluation for udder traits took place
as scheduled at the Interbull Centre. Data from 26 countries were
included in this evaluation.

International genetic evaluations for udder health traits of bulls from
Australia, Austria-Germany, Belgium, Canada, Czech Republic, Denmark-Finland-Sweden, Estonia,
France, Hungary, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, South Africa,
Slovak Republic, Spain, Switzerland, the United Kingdom, the United States of America, Poland,
Lithuania, Latvia and Portugal were computed.
Holstein data were included in this evaluation.

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

mas: BEL, CAN, DEU, ESP, FRA, DFS,   , ITA, NLD, POL, HUN
scs: BEL, CAN, DEU, ESP, FRA, DFS, GBR, ITA, NLD, POL, HUN

CHANGES IN NATIONAL PROCEDURES

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

ESP (HOL)   Moved from a GBLUP to a SNPBLUP model
            Base change

NLD (HOL)   Corrected typo in genetic merit information from T+ to B+

BEL (HOL)   Changes in the reference population

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 August 2019

Country Date

CAN   20190801
DEU   20190813
DFS   20190813
FRA   20190814
GBR   20190703
NLD   20190801
ITA   20190711
HUN   20190723
BEL   20190801
ESP   20190710
POL   20190630
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Table 2.

Number of bulls in reference population for   scs

CAN 38918.0
DEU 4463.0 38405.0
DFS 3679.0 35402.0 36847.0
FRA 3752.0 33735.0 33770.0 36140.0
GBR 32504.0 4506.0 3742.0 3779.0 34211.0
NLD 3666.0 35041.0 35081.0 33746.0 3743.0 37437.0
ITA 32387.0 3906.0 2967.0 2993.0 31118.0 2921.0 33096.0
HUN 1571.0 6997.0 6758.0 6760.0 1575.0 6970.0 1465.0 7613.0
BEL 1727.0 1258.0 1081.0 1263.0 1310.0 1204.0 1605.0   727.0 3170.0
ESP 4019.0 35928.0 36091.0 34314.0 4087.0 35579.0 3264.0 6984.0 1227.0 37390.0
POL 3911.0 31044.0 31355.0 29893.0 3615.0 30927.0 3135.0 6848.0 1706.0 31720.0 33354.0

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Number of bulls in reference population for        mas
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CAN 21137.0
DEU  3907.0 36679.0
DFS  3342.0 34075.0 35308.0
FRA  3517.0 32427.0 32471.0 34549.0
NLD  3362.0 33762.0 33818.0 32470.0 35731.0
ITA 16380.0  3416.0  2705.0  2841.0  2691.0 16660.0
HUN  1475.0  6958.0  6734.0  6738.0  6941.0  1389.0  7503.0
BEL  1292.0  1226.0  1067.0  1245.0  1190.0  1185.0   723.0  2725.0
ESP  3663.0 34543.0 34693.0 32964.0 34285.0  2991.0  6950.0  1202.0 35818.0
POL  3438.0 29782.0 30081.0 28635.0 29702.0  2734.0  6835.0  1618.0 30418.0 31768.0
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