INTRODUCTION

The latest genomic test international evaluation for workability traits took place as
scheduled at the Interbull Centre. Data from 15 countries were included
in this evaluation.

International genetic evaluations for workability traits of bulls were computed from:
AUS CAN CHE DEU DFS FRA GBR NLD SVN NZL ITA JPN ESP CZE POL
Holstein data were included in this evaluation.

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

msp: CAN, DEU, FRA, DFS, GBR, NLD, ITA, ESP, POL
tem: , DEU,   , DFS, GBR, NLD

CHANGES IN NATIONAL PROCEDURES

Changes in the national genomic evaluation of workability traits are as follows:

ESP (HOL)   Base change for trait msp, in line with MACE
HUN (HOL)   Provided new parameters. The software for the estimation of SNP solutions has been updated.
              New estimation of starting values for estimation of SNPs solutions and
              to calculate the ratio of residual to genetic variance.
              The changes triggered an increase in SD of all submitted traits.
ITA (HOL)   Base change for msp, in line with MACE
POL (HOL)   Reduction in size of the reference population.

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

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NEXT ROUTINE INTERNATIONAL EVALUATION
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Dates for next routine run can be found on http://www.interbull.org/ib/servicecalendar


NEXT TEST INTERNATIONAL EVALUATION
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Dates for next routine run can be found on http://www.interbull.org/ib/servicecalendar


PUBLICATION OF INTERBULL ROUTINE RUN
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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 2022
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Country  Date
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CAN      20220801
DEU      20220809
DFS      20220809
FRA      20220810
NLD      20220801
GBR      20220704
ITA      20220712
ESP      20220711
POL      20220708
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Table 2.
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Number of bulls in reference population for       msp
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CAN 23831.0
DEU  6454.0 37327.0
DFS  4543.0 33798.0 34646.0
FRA  3643.0 30882.0 30452.0 32437.0
NLD  3597.0 32280.0 31803.0 30446.0 33582.0
GBR 20394.0  6913.0  4959.0  3758.0  3945.0 22985.0
ITA 19383.0  4710.0  3234.0  2911.0  2844.0 18414.0 20003.0
ESP  5347.0 34781.0 34020.0 30969.0 32324.0  5825.0  3792.0 35723.0
POL  4153.0 29005.0 28786.0 26517.0 27697.0  4496.0  2932.0 29320.0 30320.0

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Number of bulls in reference population for       tem
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DEU 34797.0
DFS 31315.0 32023.0
NLD 29998.0 29443.0 31157.0
GBR  6364.0  4456.0  3582.0 22090.0
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