

## INTRODUCTION

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The latest genomic international evaluation for dairy **production traits** took place as scheduled at the Interbull Centre. Data 32 countries were included in this evaluation.

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

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

fat: BEL, CAN, DEU, ESP, FRA, AUS, DFS, GBR, ITA, NLD, POL, HUN

mil: BEL, CAN, DEU, ESP, FRA, AUS, DFS, GBR, ITA, NLD, POL, HUN

pro: BEL, CAN, DEU, ESP, FRA, AUS, DFS, GBR, ITA, NLD, POL, HUN

## CHANGES IN NATIONAL PROCEDURES

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

CAN (HOL) Base change

DFS (HOL) Inclusion of females in reference population

FRA (HOL) Base change

ITA (HOL) Cut off one year of data and base change

NLD (HOL) Introduced the cow reference population in genomics.

## INTERBULL CHANGES COMPARED TO THE DECEMBER ROUTINE RUN

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No changes in Interbull procedures

## DATA AND METHOD OF ANALYSIS

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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

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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

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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 April 2018

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Country  Date
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CAN      20180401
DEU      20180404
DFS      20180306
FRA      20180404
ITA      20180309
NLD      20180401
GBR      20180308
AUS      20170704
BEL      20171201
ESP      20180313
HUN      20180315
POL      20180228
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Table 2.

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Number of bulls in reference population for      mil
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CAN 36249.0
DEU 3351.0 36312.0
DFS 2701.0 33446.0 34394.0
FRA 3157.0 32303.0 31787.0 34738.0
ITA 27881.0 2058.0 1604.0 1887.0 28199.0
NLD 2936.0 33796.0 33261.0 32214.0 1850.0 35646.0
GBR 29793.0 3129.0 2535.0 2929.0 26624.0 2780.0 30924.0
AUS 1126.0 629.0 576.0 634.0 653.0 695.0 1240.0 4150.0
BEL 1442.0 1053.0 914.0 1075.0 1170.0 1023.0 967.0 340.0 2775.0
ESP 2939.0 34050.0 33688.0 32781.0 1662.0 33882.0 2760.0 610.0 995.0 35317.0
HUN 1060.0 6193.0 5794.0 6020.0 837.0 6170.0 1010.0 389.0 490.0 6103.0
6694.0
POL 3197.0 29280.0 29073.0 28377.0 1971.0 29274.0 2624.0 575.0 1514.0 29868.0
6137.0 31565.0

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Number of bulls in reference population for      fat
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CAN 36249.0
DEU 3351.0 36312.0
DFS 2701.0 33446.0 34394.0
FRA 3157.0 32303.0 31787.0 34738.0
ITA 27881.0 2058.0 1604.0 1887.0 28199.0
NLD 2936.0 33796.0 33261.0 32214.0 1850.0 35646.0
GBR 29793.0 3129.0 2535.0 2929.0 26624.0 2780.0 30923.0
AUS 1126.0 629.0 576.0 634.0 653.0 695.0 1240.0 4150.0
BEL 1442.0 1053.0 914.0 1075.0 1170.0 1023.0 967.0 340.0 2775.0
ESP 2939.0 34050.0 33688.0 32781.0 1662.0 33882.0 2760.0 610.0 995.0 35317.0
HUN 1060.0 6193.0 5794.0 6020.0 837.0 6170.0 1010.0 389.0 490.0 6103.0
6694.0
POL 3197.0 29280.0 29073.0 28377.0 1971.0 29274.0 2624.0 575.0 1514.0 29868.0
6137.0 31565.0

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