

INTRODUCTION

The latest genomic routine international evaluation for udder traits took place as scheduled at the Interbull Centre. Data from 29 countries were included in this evaluation.

International genetic evaluations for udder health traits of bulls from Australia, Belgium, Canada, Croatia, Czech Republic, Denmark-Finland-Sweden, Estonia, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Netherlands, New Zealand, South Africa, Slovak Republic, Slovenia, Spain, Switzerland, the United Kingdom, the United States of America, Poland, Portugal, Lithuania, Latvia and Uruguay 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 udder traits are as follows:

NDL (HOL) mas re-included (blocked in 2009t)

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 December 2020

Country	Date
CAN	20201201
DEU	20201201
DFS	20201103
FRA	20201202
GBR	20201020
NLD	20201201
ITA	20201104
HUN	20201112
BEL	20190901
ESP	20201110
POL	20201031

Table 2.

Number of bulls in reference population for scs

CAN	41190.0
DEU	7303.0 42084.0
DFS	4543.0 37072.0 38160.0
FRA	4121.0 34797.0 34355.0 36686.0
GBR	34580.0 7446.0 4660.0 4125.0 36787.0
NLD	4165.0 36417.0 35969.0 34388.0 4321.0 38486.0
ITA	34192.0 6498.0 3680.0 3262.0 33067.0 3327.0 35196.0
HUN	1884.0 7564.0 7159.0 7054.0 1925.0 7329.0 1790.0 8140.0
BEL	1805.0 1356.0 1139.0 1291.0 1389.0 1238.0 1678.0 807.0 3260.0
ESP	5105.0 37919.0 37364.0 34952.0 5266.0 36558.0 4181.0 7440.0 1293.0 39035.0
POL	4438.0 32352.0 32255.0 30437.0 4217.0 31778.0 3519.0 7179.0 1740.0 32721.0 34354.0

Number of bulls in reference population for mas

CAN	23446.0
DEU	5683.0 31124.0
DFS	3812.0 28045.0 28942.0
FRA	3499.0 26632.0 26352.0 28293.0
NLD	3422.0 27434.0 27155.0 26313.0 29077.0
ITA	18576.0 5131.0 3210.0 2892.0 2840.0 19009.0
HUN	1781.0 7455.0 7079.0 6981.0 7233.0 1711.0 7973.0
BEL	1362.0 1293.0 1103.0 1249.0 1191.0 1259.0 802.0 2780.0
ESP	4223.0 28698.0 28324.0 26761.0 27563.0 3606.0 7342.0 1245.0 29596.0
POL	3528.0 23307.0 23329.0 22354.0 22866.0 2869.0 7105.0 1624.0 23667.0 24955.0

