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)   Base change

HUN (HOL)   Changes affecting GREL

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 2020

Country	Date
CAN	20200801
DEU	20200811
DFS	20200811
FRA	20200812
GBR	20200616
NLD	20200811
ITA	20200714
HUN	20200723
BEL	20190901
ESP	20200721
POL	20200630

Table 2.

Number of bulls in reference population for scs

CAN	40576.0									
DEU	6715.0	41327.0								
DFS	4212.0	36598.0	37706.0							
FRA	4080.0	34664.0	34215.0	36626.0						
GBR	33968.0	6805.0	4274.0	4062.0	36066.0					
NLD	4095.0	36203.0	35834.0	34340.0	4195.0	38341.0				
ITA	33680.0	5933.0	3375.0	3214.0	32450.0	3239.0	34611.0			
HUN	1816.0	7445.0	7028.0	6990.0	1844.0	7253.0	1723.0	8022.0		
BEL	1794.0	1338.0	1114.0	1291.0	1374.0	1238.0	1667.0	797.0	3250.0	
ESP	4854.0	37504.0	36903.0	34876.0	4936.0	36422.0	3950.0	7336.0	1293.0	38645.0
POL	4322.0	32095.0	32047.0	30374.0	4036.0	31640.0	3411.0	7099.0	1740.0	32499.0 34105.0

Number of bulls in reference population for mas

CAN	22833.0	
DEU	5179.0	30496.0

DFS	3499.0	27638.0	28538.0							
FRA	3439.0	26524.0	26217.0	28231.0						
NLD	3334.0	27253.0	27027.0	26265.0	28930.0					
ITA	18057.0	4645.0	2926.0	2840.0	2754.0	18442.0				
HUN	1703.0	7327.0	6955.0	6918.0	7157.0	1630.0	7848.0			
BEL	1341.0	1268.0	1073.0	1247.0	1189.0	1239.0	791.0	2760.0		
ESP	3982.0	28334.0	27914.0	26686.0	27430.0	3389.0	7240.0	1238.0	29255.0	
POL	3410.0	23091.0	23145.0	22289.0	22736.0	2765.0	7028.0	1621.0	23473.0	24733.0