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 submitted GEBVs.

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

CHANGES IN NATIONAL PROCEDURES

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

DEU (HOL) Bulls older than 17 months year old and not selected yet have been removed from the national evaluation

ESP (HOL) Elimination of many Eurogenomics bulls from the national evaluation. These bulls had already MACE proof or have not been selected for AI

CAN (HOL) GEBVS have been affected by correction of conventional BV (some mastitis records were previously included in the EDC calculation while they were excluded from breeding value calculation, this has been fixed now)

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.

SCIENTIFIC LITERATURE

The international genetic evaluation procedure is based on international work described in the following scientific publications:

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 minimizing the need to resort to conversions.

At the same time, all recipients of Interbull results are expected to honor 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 2016

Country	Date
CAN	20160801
DEU	20160809
DFS	20160809
FRA	20160811
GBR	20160629
NLD	20160801
ITA	20160629
BEL	20160801
ESP	20160721
POL	20160710

Table 2.

Number of bulls in reference population for scs

CAN	32794.0								
DEU	2094.0	33411.0							
DFS	1876.0	31295.0	32237.0						
FRA	2316.0	29489.0	29318.0	31586.0					
GBR	26680.0	1909.0	1718.0	2097.0	27012.0				
NLD	2284.0	31898.0	31676.0	29920.0	2079.0	33717.0			
ITA	25432.0	1518.0	1253.0	1588.0	25319.0	1584.0	25931.0		
BEL	1253.0	915.0	823.0	961.0	815.0	941.0	713.0	2548.0	
ESP	1935.0	30813.0	30785.0	29645.0	1754.0	31364.0	1291.0	857.0	31631.0
POL	145.0	2496.0	2620.0	2573.0	169.0	2629.0	142.0	175.0	2630.0	2746.0

Number of bulls in reference population for mas

CAN	29921.0								
DEU	2085.0	32301.0							
DFS	1837.0	30206.0	31064.0						
FRA	2266.0	28384.0	28150.0	30193.0					
GBR	24243.0	1901.0	1680.0	2050.0	24544.0				
NLD	2236.0	30829.0	30533.0	28766.0	2032.0	32551.0			
ITA	23027.0	1512.0	1250.0	1582.0	22912.0	1576.0	23508.0		
BEL	1249.0	915.0	820.0	956.0	811.0	938.0	712.0	2541.0	
ESP	1895.0	29718.0	29617.0	28466.0	1715.0	30212.0	1288.0	854.0	30448.0
POL	145.0	2496.0	2620.0	2573.0	169.0	2629.0	142.0	175.0	2630.0	2746.0