Introduction

The latest genomic routine international evaluation for udder traits took place as scheduled at the Interbull Centre. Data from twentysix (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.

Changes in national procedures

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

DEU (HOL) Some bulls are no longer published as they are no longer AI bulls and some appear now with a new ID.

ESP (HOL) Inclusion of genotypes from young bulls belonging to Eurogenomic countries.

FRA (HOL) The list of QTLs has been updated and enlarged, the residual polygenic effects are now estimated using a genomic matrix instead of a kinship matrix

ITA (HOL) Cut one year of data (1999) and applied the base change

NLD (HOL) Base change

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 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 2015

Country	Date
BEL	20150301
CAN	20150401
DEU	20150408
DFS	20150202
ESP	20150320
FRA	20150410
GBR	20150314
ITA	20150312
NLD	20150401
POL	20150301

Table 2.

Number of bulls in reference population for scs

BEL	1976.0									
CAN	647.0	25519.0								
DEU	800.0	1498.0	31391.0							
DFS	724.0	1385.0	26940.0	27393.0						
ESP	722.0	1229.0	27898.0	25195.0	28405.0					
FRA	753.0	1580.0	26067.0	23186.0	25385.0	27541.0				
GBR	604.0	24183.0	1347.0	1230.0	1082.0	1402.0	24252.0			
ITA	607.0	23232.0	1091.0	965.0	889.0	1108.0	23129.0	23665.0		
NLD	760.0	1427.0	21585.0	21365.0	20307.0	19532.0	1285.0	1050.0	22836.0	
POL	180.0	136.0	2504.0	206.0	2620.0	2565.0	132.0	137.0	215.0	2747.0

Number of bulls in reference population for mas

BEL	1970.0									
CAN	644.0	22559.0								
DEU	799.0	1446.0	30114.0							
DFS	722.0	1337.0	25694.0	26134.0						
ESP	722.0	1219.0	26780.0	24084.0	27274.0					
FRA	752.0	1508.0	24820.0	21946.0	24282.0	26103.0				
GBR	601.0	21593.0	1297.0	1184.0	1073.0	1333.0	21655.0			
ITA	604.0	20682.0	1076.0	954.0	885.0	1086.0	20591.0	21102.0		
NLD	758.0	1371.0	20372.0	20153.0	19228.0	18321.0	1233.0	1033.0	21605.0	
POL	180.0	136.0	2504.0	206.0	2620.0	2565.0	132.0	137.0	215.0	2747.0