Introduction

The latest international evaluation for dairy production traits took place as scheduled at the Interbull Centre. Data from thirty one (30) 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 Urugay were computed.
Holstein data were included in this evaluation.

CAN, DEU, DFS, FRA, GBR, ITA, NLD, POL, BEL, AUS and ESP contributed with GEBVs.

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

Changes in national procedures

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

EST HOL/RDC Updates in database between two evaluation runs cause most of changes in Daughters/Herds/EDC.

NOR RDC The rolling definition of hys is causing the daughters to distribute somewhat differently over hys-classes at each evaluation. Therefore some bulls occasionally may lose EDC although the number of daughters stay the same. Reliability changes is a function of the EDC changes.

DEA BSW/SIM Continuous shift of the base group in each evaluation. Inclusion of CZE proofs in the SIM evaluation

HRV HOL,SIM Participating for the first time

BEL HOL Improvement in herd identification caused some bulls to be missing from previous run

ISR HOL Changes in the procedures for computation of records, exclusion of bulls with no daughters

NZL ALL Herd and daughter numbers change due to parentage verification

SVN BSW,HOL Changed time period for data inclusion. Average cut was 4 years
SIM Changed definition of genetic reference base to year 2010
Recalculated genetic parameters. Changed herd to herd-year effect.
Performed cleaning data based on genomic parentage test as a consequence the pedigree changed for some animals

USA ALL Changed in Multi trait model

ZAF HOL,JER Data since 2011/11 from ARC herds were included. As SA Holstein Society contracted SASB in 2014 as their service provider, data cleanups were done on the data as received from the Australian system, which they previously used . Changed h2 for milk.

INTERBULL CHANGES COMPARED TO THE DECEMBER ROUTINE RUN

No changes in Interbull procedures

DATA AND METHOD OF ANALYSIS

Data were national genetic evaluations of AI sampled bulls with at least 10 daughters or 10 EDC (for clinical mastitis and maternal calving traits at least 50 daughters or 50 EDC, and for direct calving traits at least 50 calvings or 50 EDC) in at least 10 herds. Table 1 presents the amount of data included in this Interbull evaluation for all breeds.

National proofs were first de-regressed within country and then analysed jointly with a linear model including the effects of evaluation country, genetic group of bull and bull merit. Heritability estimates used in both the de-regression and international evaluation were as in each country's national evaluation.

Table 2 presents the date of evaluation as supplied by each country in the 01x-proof file.

Estimated genetic parameters and sire standard deviations are shown in APPENDIX I and the corresponding number of common bulls are listed in APPENDIX II.

SCIENTIFIC LITERATURE

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

International genetic evaluation computation:
Schaeffer. 1994. J. Dairy Sci. 77:2671-2678
Klei, 1998. Interbull Bulletin 17:3-7

Verification and Genetic trend validation:
Klei et al., 2002. Interbull Bulletin 29:178-182.
Boichard et al., 1995. J. Dairy Sci. 78:431-437

Weighting factors:
Fikse and Banos, 2001. J. Dairy Sci. 84:1759-1767

De-regression:
Sigurdsson and G. Banos. 1995. Acta Agric. Scand. 45:207-219
Jairath et al. 1998. J. Dairy Sci. Vol. 81:550-562

Genetic parameter estimation:
Klei and Weigel, 1998, Interbull Bulletin 17:8-14
Sullivan, 1999. Interbull Bulletin 22:146-148

Post-processing of estimated genetic correlations:
Mark et al., 2003, Interbull Bulletin 30:126-135
Jorjani et al., 2003. J. Dairy Sci. 86:677-679
https://wiki.interbull.org/public/rG%20procedure?action=print

Time edits
Weigel and Banos. 1997. J. Dairy Sci. 80:3425-3430

International reliability estimation
Harris and Johnson. 1998. Interbull Bulletin 17:31-36

NEXT ROUTINE INTERNATIONAL EVALUATION

The next routine evaluation of Interbull for production, conformation, udder health, longevity, calving, female fertility and workability traits is scheduled for April 2015. Deadline for sending data to the Interbull Centre is Tuesday November 18, 2014, 17:00 CET; confidential distribution of results is targeted for Wednesday November 26, 2014, with earliest possible official release of results on March 23, 2015. Please remark the three week turnaround time.

NEXT TEST INTERNATIONAL EVALUATION

The next test run for production, conformation, udder health, longevity, calving, female fertility and workability traits will take place in February 2015. Countries planning to introduce changes in their national evaluation procedures and wishing to have them included in the routine Interbull evaluation, should have their data examined in this test run. New data and validation results should be sent to the Interbull Centre no later than February 3, 2015, 17:00 CET.

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 2014

Country	Date
CAN	20141201
DEU	20141202
DFS	20140812
FRA	20141204
ITA	20141103
NLD	20141201
GBR	20141101
AUS	20080407
BEL	20141206
ESP	20141111
POL	20141027

Table 2.

Number of bulls in reference population for mil

CAN	25056.0										
DEU	1378.0	27829.0									
DFS	1102.0	24879.0	25636.0								
FRA	1552.0	22747.0	21658.0	27273.0							
ITA	22886.0	1010.0	842.0	1114.0	23259.0						
NLD	1357.0	24900.0	24762.0	21982.0	1054.0	26532.0					
GBR	23672.0	1230.0	967.0	1370.0	22783.0	1203.0	23759.0				
AUS	507.0	365.0	366.0	379.0	308.0	475.0	480.0	3368.0			
BEL	640.0	758.0	684.0	773.0	599.0	759.0	596.0	227.0	2016.0		
ESP	1182.0	24428.0	23782.0	22445.0	854.0	23891.0	1036.0	360.0	709.0	25290.0	
POL	136.0	204.0	205.0	2569.0	137.0	214.0	132.0	107.0	181.0	205.0	2748.0

Number of bulls in reference population for fat

CAN	25056.0										
DEU	1378.0	27829.0									
DFS	1102.0	24879.0	25636.0								
FRA	1552.0	22747.0	21658.0	27273.0							
ITA	22886.0	1010.0	842.0	1114.0	23259.0						
NLD	1357.0	24900.0	24762.0	21982.0	1054.0	26532.0					
GBR	23672.0	1230.0	967.0	1370.0	22783.0	1203.0	23759.0				
AUS	507.0	365.0	366.0	379.0	308.0	475.0	480.0	3368.0			
BEL	640.0	758.0	684.0	773.0	599.0	759.0	596.0	227.0	2016.0		
ESP	1182.0	24428.0	23782.0	22445.0	854.0	23891.0	1036.0	360.0	709.0	25290.0	
POL	136.0	204.0	205.0	2569.0	137.0	214.0	132.0	107.0	181.0	205.0	2748.0

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Number of bulls in reference population for        pro
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CAN 25056.0
DEU  1378.0 27829.0
DFS  1102.0 24879.0 25636.0
FRA  1552.0 22747.0 21658.0 27273.0
ITA 22886.0  1010.0   842.0  1114.0 23259.0
NLD  1357.0 24900.0 24762.0 21982.0  1054.0 26532.0
GBR 23672.0  1230.0   967.0  1370.0 22783.0  1203.0 23759.0
AUS   507.0   365.0   366.0   379.0   308.0   475.0   480.0  3368.0
BEL   640.0   758.0   684.0   773.0   599.0   759.0   596.0   227.0  2016.0
ESP  1182.0 24428.0 23782.0 22445.0   854.0 23891.0  1036.0   360.0   709.0 25290.0
POL   136.0   204.0   205.0  2569.0   137.0   214.0   132.0   107.0   181.0   205.0  2748.0
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