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Introduction
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The latest 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.

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

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

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

EST HOL/RDC Updates in our 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 SIM/BSW Continuous shift of the base group in each evaluation.
            Genetic parameter and model from DEA evaluation including CZESIM data, adjustments
regarding genetic groups and fixed effects for CZE data was done.

CAN HOL,RDC Participating in the mastitis evaluation for the first time
     JER

SVN BSW,HOL Changed time period for data inclusion, average cut was 4 years. Changed the definition
of genetic reference base to year 2010.
            Genetic parameters were recalculated for all breeds and traits. Changed herd to herd-
year effect.
            Performed cleaning data based on genomic parentage test as a consequence the pedigree
changed for some animals

ISR (HOL)   Changes in the procedure for computation of records

GBR(SIM)    First time

HRV HOL,SIM Participating for the first time

USA ALL     Used new genetic evaluation software and changed the base

ZAF HOL,JER Data since 2011/11 from ARC herds were included

INTERBULL CHANGES COMPARED TO THE DECEMBER ROUTINE RUN
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No changes in Interbull procedures

DATA AND METHOD OF ANALYSIS
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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,
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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.

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PUBLICATION OF INTERBULL ROUTINE RUN
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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.
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Table 1. National evaluation dates in GMACE run August 2014

Country	Date
CAN	20141201
DEU	20141202
DFS	20141102
FRA	20141204
GBR	20141101
NLD	20141201
ITA	20141106
BEL	20141206
ESP	20141118
POL	20141027

Table 2.

Number of bulls in reference population for   scs

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CAN 25014.0
DEU  1378.0 27824.0
DFS  1102.0 24878.0 25635.0
FRA  1549.0 22745.0 21658.0 27254.0
GBR 23637.0  1230.0   967.0  1368.0 23699.0
NLD  1357.0 24900.0 24762.0 21982.0  1203.0 26532.0
ITA 22855.0  1010.0   842.0  1113.0 22752.0  1054.0 23225.0
BEL   640.0   758.0   684.0   773.0   596.0   759.0   599.0  2016.0
ESP  1181.0 24426.0 23781.0 22435.0  1035.0 23891.0   854.0   709.0 25279.0
POL   136.0   204.0   205.0  2568.0   132.0   214.0   137.0   181.0   205.0  2747.0
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Number of bulls in reference population for   mas

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DEU 26610.0
DFS 23836.0 24574.0
FRA 21558.0 20608.0 25854.0
GBR  1193.0   961.0  1331.0 21203.0
NLD 23847.0 23729.0 20921.0  1192.0 25455.0
ITA  1004.0   839.0  1108.0 20300.0  1047.0 20759.0
BEL   758.0   684.0   773.0   595.0   759.0   598.0  2014.0
ESP 23416.0 22838.0 21445.0  1028.0 22943.0   851.0   709.0 24262.0
POL   204.0   205.0  2568.0   132.0   214.0   137.0   181.0   205.0  2747.0
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