## INTRODUCTION

This GMACE run includes GEBV data from the following countries:
CAN DEU DFS FRA GBR ITA NLD POL

## CHANGES IN NATIONAL PROCEDURES

Changes in the national genetic/genomic evaluation of female fertility traits are as follows:

GBR Base change
DEU There is no longer a distintion nationally between 1st and 2nd crop of daughters (as conseuencs of genomically proven bulls), thus type of proof is either
11 (German bull) or 21 (foreign bull), there are quite a number of bulls mentioned as "missing", however most of these appear now with another (correct) ID,
these are mostly danish bulls
POL Due to inconsistencies between the current and the previous data (for cc2, crc, int), the April data was used.

## INTERBULL CHANGES COMPARED TO THE MARCH ROUTINE RUN

No changes in Interbull procedures

## SCIENTIFIC LITERATURE

The GMACE procedure is based on the following scientific publications:

GMACE implementation:
Sullivan, P.G. and VanRaden, P.M. 2010. Interbull Bulletin 41:3-7
Sullivan, P.G. et al., 2011. Interbull Bulletin 44: 87-94
Sullivan, P.G. and Jakobsen, J.H. 2012. Interbull Bulletin 45: 3-7.
VanRaden, P.M. and Sullivan, P.G. 2010. Gen. Sel. Evol. 42: 7
Sullivan, P.G. 2013. GMACE reliability approximation. Interbull Bulletin 47: 1-4
Sullivan, P.G. 2013. GMACE variance estimation. Interbull Bulletin 47: 5-9
Sullivan, P.G. 2013. GMACE weighting factors. Interbull Bulletin 47: 10-14.

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&rev=17

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

According to time schedule in http://www.interbull.org/ib/servicecalendar

NEXT TEST INTERNATIONAL EVALUATION

According to the time schedule on http://www.interbull.org/ib/servicecalendar

PUBLICATION OF INTERBULL GMACE RUN

Rules regarding publication of test evaluations should be observed.

Table 1.  National evaluation dates in GMACE run Agust 2014

| Country | Date |
|---|---|
| CAN | 20140801 |
| DEU | 20140812 |
| DFS | 20140812 |
| GBR | 20140717 |
| ITA | 20140715 |
| NLD | 20140801 |
| POL | 20140314 |
| FRA | 20140814 |

Table 2.

Number of bulls in reference population for hco

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CAN | 14875.0 | | | | | | |
| DEU | 1134.0 | 21068.0 | | | | | |
| DFS | 1003.0 | 19188.0 | 19460.0 | | | | |

Number of bulls in reference population for crc

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CAN | 21203.0 | | | | | | |
| DEU | 1233.0 | 27236.0 | | | | | |
| DFS | 1094.0 | 25060.0 | 25436.0 | | | | |
| GBR | 19957.0 | 1085.0 | 957.0 | 20009.0 | | | |
| ITA | 19509.0 | 964.0 | 834.0 | 19338.0 | 19896.0 | | |
| NLD | 1290.0 | 25013.0 | 24634.0 | 1138.0 | 1010.0 | 26003.0 | |
| POL | 136.0 | 210.0 | 205.0 | 132.0 | 137.0 | 215.0 | 2587.0 |
| FRA | 1363.0 | 21815.0 | 21429.0 | 1207.0 | 1017.0 | 21648.0 | 247.0 23318.0 |

Number of bulls in reference population for cc1

| | | | | | | |
|---|---|---|---|---|---|---|
| CAN | 21149.0 | | | | | |
| DEU | 1229.0 | 25846.0 | | | | |
| DFS | 1092.0 | 23708.0 | 24011.0 | | | |
| FRA | 1362.0 | 20654.0 | 20271.0 | 21995.0 | | |
| GBR | 19804.0 | 1081.0 | 955.0 | 1192.0 | 19896.0 | |
| NLD | 1292.0 | 23646.0 | 23210.0 | 20479.0 | 1135.0 | 24333.0 |

Number of bulls in reference population for cc2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CAN | 22767.0 | | | | | | |
| DEU | 1211.0 | 26908.0 | | | | | |
| DFS | 1097.0 | 25081.0 | 25457.0 | | | | |
| FRA | 1358.0 | 21816.0 | 21456.0 | 23163.0 | | | |
| GBR | 21466.0 | 1067.0 | 959.0 | 1188.0 | 21517.0 | | |
| ITA | 20938.0 | 960.0 | 837.0 | 1018.0 | 20765.0 | 21149.0 | |
| NLD | 1310.0 | 25023.0 | 24657.0 | 21665.0 | 1151.0 | 1024.0 | 26178.0 |
| POL | 136.0 | 210.0 | 205.0 | 245.0 | 132.0 | 137.0 | 215.0 2581.0 |

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-----------------------------------------------------
Number of bulls in reference population for        int
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CAN 22384.0
DEU  1071.0 21645.0
GBR 21231.0   979.0 21282.0
ITA 20904.0   947.0 20734.0 21115.0
NLD  1132.0 19882.0  1033.0  1011.0 20899.0
POL   136.0   209.0   132.0   137.0   214.0  2578.0
```