Introduction

The latest routine international evaluation for udder traits took place as scheduled at the Interbull Centre. Data from thirty-three (33) countries were included in this evaluation.

International genetic evaluations for udder health traits of bulls from Australia, Austria-Germany, Belgium, Canada, Croatia, 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, Croatia, Slovenia, Portugal and Uruguay were computed. Brown Swiss, Holstein, Red Dairy Cattle, Guernsey, Jersey and Simmental breed data were included in this evaluation.

Changes in national procedures

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

- JPN (HOL): Decreased information of daughters due to changes of pedigree
- FRA (ALL): Base change
- DEU (HOL,RDC,JER): Base change
- ITA (HOL): Cut off one year of data, base change
- CHE (BSW,HOL,SIM): Changed pre-adjustment for pregnancy based on number of days after conception for HOL, SIM and BSW. To account for stage of pregnancy, we pre-adjust the phenotypic data. Pregnancy effect estimates (from a previous study) are used for additive pre-adjustment of test-day records. Due to an error in a program code, pre-adjustment for days pregnant didn’t work properly (since the introduction of the RRTDM in 2005). As a consequence of this error, nearly all the records got the maximum correction. Now, this error is fixed and the pre-adjustment for days pregnant should work correctly.
- CHE (JER): First time
- AUS (ALL): Changed to the rules for the official publication resulting in many bulls changing status to N, pedigree corrections
- BEL (HOL): Change the "national standards" for official publication in our country (Walloon Region of Belgium) for type of proof = 21. Now, these "national standards" for this type of proof are the same than for type of proof= 11 or 12, i.e. if REL >=45
- NLD (ALL): Minor adjustment in the EDC calculation for MAS
- NZL (ALL): Continuous DNA parentage testing.
- HRV (HOL,SIM): Changes in heritability due to estimated variance components based on larger (new) data set. Decrease in information due to pedigree changes and completeness
- CAM (RDC): Base change
- CAN (ALL): Base change
- ITA (SIM): Base change
- ITA (BSW): Base change
- SVN (ALL): base change
- URY (HOL): First time with scs data
- USA (RDC): Corrected an error in the system related to RDC pedigrees. Previously cow heterosis had been computed as if mating AY to Scandinavian does not cause heterosis, whereas bull heterosis assumed they were different breeds. Now the same math to both sexes is applied. The correction is a post-adjustment to the PTAs, not part of the genetic model.

INTERBULL CHANGES COMPARED TO THE DECEMBER ROUTINE RUN

Subsetting:

As decided by the ITC in Orlando, new subsetting was introduced in the september test run. Subsetting is necessary for operational purposes and restrictions of time scales. To minimize the effect of subsetting, larger subsets with 10-12 countries and with 4 link providing countries have been applied.

Window:

According to the decision taken by ITC in Orlando, the following changes have been introduced in regards to the windows used for post processing:

The upper bounds have been set to 0.99 as these were judged to have very little effect on evaluations. The lower values have been set to about the 25% percentile value. The largest changes are for the lower values for conformation traits, with the lowest window being 40% for OFL otherwise it is about 50% for all other conformation traits. It is anticipated that these low values may not have large impact on evaluations since there were very few countries combinations whose estimated correlations fell between the old limit of 0.30 and these new limits.
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.

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:

Verification and Genetic trend validation:
  Boichard et al., 1995. J. Dairy Sci. 78:431-437

Weighting factors:

De-regression:

Genetic parameter estimation:
  Klei and Weigel, 1998, Interbull Bulletin 17:8-14

Post-processing of estimated genetic correlations:
  Mark et al., 2003, Interbull Bulletin 30:126-135

Time edits

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

NEXT ROUTINE INTERNATIONAL EVALUATION

Dates for the next routine evaluation can be found on http://www.interbull.org/ib/servicecalendar.

NEXT TEST INTERNATIONAL EVALUATION

Dates for the next test run can be found on http://www.interbull.org/ib/servicecalendar.

PUBLICATION OF INTERBULL TEST RUN

Test evaluation results are meant for review purposes only and should not be published.
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**common bulls below diagonal**

**common three quarter sib group above diagonal**

**IRL CZE SVK POL LTU LVA PRT KOR SVN HRV URY**

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**common bulls below diagonal**

**common three quarter sib group above diagonal**

**IRL CZE SVK POL LTU LVA PRT KOR SVN HRV URY**

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