



## *MINUTES INTERBULL BUSINESS MEETING*

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*MONDAY 24, AND TUESDAY 25 OCTOBER 2016, PUERTO VARAS*

### **Agenda**

***Room "Calbuco" Convention Centre, Hotel Patagónico, Puerto Varas, Chile.***

***Monday 24 October 2016, 13:30 – 15:30 Tuesday 25 October 2016, 15:50 – 17:10***

1. Opening
2. Adoption of agenda
3. Interbull Centre report
  - a. Activities
  - b. Work plans
  - c. Financial accounts and budgets
4. Interbull Technical Committee report
5. GenoEx-PSE
6. Requests and Suggestions from Interbull Users
  - a. Refinement of ID information in Interbull files
  - b. Use of AnimInfo for exchange of information on genetic traits
  - c. Genotype Data Exchange (GenoEx-GDE)
  - d. InterGenomics extended to other populations/breeds
7. Interbeef working group report
8. Governance
  - a. Report on Interbull-ICAR Operations Task Force
  - b. Nomination of Steering Committee members
9. Interbull strategic plan
10. Technical Workshop 2017
11. Other matters

### **Relevant materials:**

- Supplementary information to the Interbull Business Meeting
- Interbull Activity Report 2015/2016: <http://www.interbull.org/ib/itbcreports>
- Interbull Financial Report 2015/2016 [ITBC\\_Financial\\_Report2015-2016](http://www.interbull.org/ib/itbc_financial_report2015-2016)
- Summary of Interbull Strategic Plan 2016-2018: [http://www.interbull.org/ib/ibc\\_strategic\\_plan](http://www.interbull.org/ib/ibc_strategic_plan)

### **Additional relevant links:**

- Interbull Executive Summaries: <http://www.interbull.org/ib/executivesummary>
- Future Events: [http://www.interbull.org/ib/ibc\\_future\\_events](http://www.interbull.org/ib/ibc_future_events)

## **Minutes**

### **1. Opening & Welcome**

Interbull chairman, Reinhard Reents, opened the meeting and welcomed all participants to the first part of the 2016 Interbull Business Meeting, expressing his pleasure to host the Interbull meeting for the first time in Chile and in South America. He informed the audience that the late starting time for the present meeting was due to a discrepancy between the program in the booklet/app and that on the was not in line with the Interbull Centre's. To ensure that everyone can attend from the start we have chosen for the latest of the two starting times that were announced.

### **2. Adoption of agenda**

Interbull Service Users, and people who had registered to attend the Interbull Annual Meeting had been contacted by email to inform them that the agenda and accompanying documents for the Interbull Business Meeting had been placed online (3 weeks ahead of the meeting).

The agenda lists 11 points. Upto part of agenda point 6 will be covered during today's business meeting while the remaining will be addressed the next day at 15.50 during the second business meeting.

The chairman proceeded with the adoption of the agenda asking the audience if there were any other topics than the ones listed which the audience would have like to discuss. No other topics were raised. Reinhard informed the participants that he would like to receive input (in the second Business meeting) on how to better organize the Interbull's Open Meetings sessions in the future.

The agenda was confirmed and accepted in all its parts.

### **3. Interbull Centre Activity Report**

Interbull Centre Director, Toine Roozen, presented the Interbull Centre Activity Report. Registrants to the Interbull meeting and subscribers to the Interbull Newsletter were notified prior to the meeting that the Interbull Activity Report was available online ([www.interbull.org/ib/bm\\_chile\\_2016](http://www.interbull.org/ib/bm_chile_2016)). The Activity Report includes a description on the activities and plans with regards to the three service areas that the Interbull Centre is active in: international bull evaluations of dairy and beef cattle (resp. "Interbull" and "Interbeef") and the international exchange of genotypes ("GenoEx").

Toine Roozen provided the meeting with an introduction of what the Interbull Centre, based at the Swedish University of Agricultural Sciences (SLU) is; this included:

- a description of the organizational structure of ICAR's permanent sub-committee "Interbull" and the Interbull Centre's role as European Reference Laboratory for Zootechnics (Bovine Breeding), and its acquisition ISO Certification in 2016.
- the Interbull Centre team, and staff changes since the previous Interbull Meeting in

July 2015.

- the size of operations underlining the total number of countries-breed-traits combinations handled at the Centre emphasizing the total number of calculated international EBVs for all services offered by the Centre (MACE, GMACE, BEEF). There has been a noticeable increase in size of operations during the last 10 years.

### **3a Activities**

Hossein Jorjani presented the activities of the Interbull Centre since the last Interbull meeting in July 2015, including information on the international evaluation runs and other activities such as validations, GEBV-test, the table for services covered, breeds, trait groups, country combinations, number of breeding values (for MACE, GMACE, InterGenomics and Interbeef). He also presented the plans for research and development:

Through a survey during 2016, not enough interest was expressed to start GMACE for other breeds than Holstein.

Demands for InterGenomics are increasing, including monitoring quality assurance for national genomic evaluations in Brown Swiss, and for other breeds (as will be presented by Marija Klopčič later in the meeting).

Changes to processes were addressed: Parallel uploading for MACE and GMACE data has been established. The Interbull website has been updated and will be further improved. Results on Rg postprocessing were presented.

The Business meeting was also informed on GMACE processes:

- Instead of uploading the **Interbull 733 and 734 files** in flat file format, from the January 2017 GMACE test run, these two files will need to be uploaded via the AnimInfo module of the IDEA database.

### **3b. Work Plans**

Toine presented the work plans for the remainder of 2016, and for 2017, which are available on: <http://www.interbull.org/ib/servicecalendar>.

Information on future meetings was also provided: They can be found on: [http://www.interbull.org/ib/ibc\\_future\\_events](http://www.interbull.org/ib/ibc_future_events).

The participants to the meeting were invited to raise questions or comments, but none were raised.

### **3c. Financial Accounts and Budgets**

The Interbull Centre Director, Toine Roozen, presented the Interbull Centre Financial Report for the year 2015/2016. Toine explained that the financial report is in draft format until it has been approved by the Interbull Meeting and SC.

Toine presented the finances since 2015 and current budget and the budget for 2017, costs and incomes and projected income and the summary.

Interbeef has a small deficit but prediction to be better and governmental costs out, genoex - sources, costs and future budget. generally, there is a small deficite of 5445 euro, but we predict higher expenses in the next year.

Approximately 90% of the costs at the Interbull Centre are driven by personnel costs: e stressed that new people are increasing the office cost and support function from SLU. We used some accumulated balance from 2015 but still have accumulated ballance on plus.

The EU commission has continued its support of the Interbull Centre for a period of 2 years: 2016 and 2017 (as opposed to for 1 year only previously: support in the form of a grant of €150K per year. The report showed an income of €92,000 in 2015; the remainder of the 2015 grant was received in 2016.

The financial situation has improved again in 2015, and is expected to improve further in 2016, justifying a deficit in the budget for 2017.

The Interbull SC Chairman, Reinhard Reents, commented that it was decided previously that the financial figures should be presented in the format as was presented.

Brian Van Doormaal expressed his appreciations for the Interbull Centre staff and for Toine, recognising the hard work and achievements.

No additional comments or questions were received.

#### **4. Interbull Technical Committee Report**

Gert Pedersen Aamand, Chairman of the Interbull Technical Committee (ITC), reported on the topics discussed during the latest ITC meeting, as usual held the day before the first business meeting (23 October 2016).

First topic discussed during the meeting was the request from member organisations of the European Brown Swiss Federation to **include extra conformation traits for the Brown Swiss** breed in the international evaluations. Eleven additional conformation traits have been included in the September 2017 test run. The ITC had discussed the results of this test run and concluded that: 1) The results do not deviate significantly from other "breeds / traits", and 2) "Pin width" and "Rump width" can be seen as the "same" traits. The ITC therefore proposes the inclusion of these traits, with the exception of "Pin width", effective from the December 2016 routine run.

**Mendelian sampling trend validation test:** pilot test results conducted in 2014 showed too many failures which could not be immediately explained. Therefore the working group was re-activated and the results have been reviewed in detail. The working group focused on three major sources of variation from each country on how they accounted for: 1) Inbreeding, 2) Reliability 3) Heterogeneous Variance. Results did not show any pattern for inbreeding and reliability but a pattern was found on how countries handled heterogeneous variance. Four countries were contacted and asked to provide explanations for the pattern

found. After reviewing their results, all four countries found errors in the model or data used to conduct the pilot run. It is expected that the MS validation test will lead to the improvement of national genetic evaluation models and an increased understanding of the effect of genomic selection on estimation of conventional breeding values. It was therefore the recommendation of the Technical Committee to 1) introduce the test in September 2017 as a mandatory test for production traits, with 2) an aspiration to introduce it for other usual validation traits in January 2018, and that 3) in the first two years after the introduction of the MS validation test, the MS test results alone should not be used to reject any data.

**GMACE reliability:** GMACE reliability and GEBV variance appeared to be inflated, especially for traits such as mastitis, where the majority of the participating countries are sending somatic cells as predictor for mastitis rather than the real mastitis trait. It turned out that the reason behind the inconsistency was due to the different value of heritability used among countries (somatic cells vs. mastitis), which was not taken correctly in account by the GMACE model. A modified GMACE model (presented by Pete Sullivan in the Open Meeting) corrects an inconsistency in the standard deviation of GMACE GEBVs and calculation of reliability values in the current GMACE by accounting for different heritability values across countries when calculating residual correlations between country pairs. It was the technical committee's recommendation to apply the modified GMACE model in the January 2017 test run, with the intention to introduce it in the April 2017 routine evaluation.

**GEBV reliability:** this working group should give recommendation on how to standardize and calculate genomic reliabilities. The group has been so far chaired by Bevin Harris who has now stepped down from his role of chairman due to other commitments. Zengting Liu (vit, Germany) has been appointed new chairman. The plan is to test new reliability software developed by LUKE.

**Robust MACE:** new results look promising. Robust MACE has shown to be able to detect and correct for potential bias, as will be presented by Haifa Benhajali during the Open Meeting. Next steps will be to identify cross-validation methods able to show that RMACE is definitely better than current MACE as well as focusing on the effect on small populations.

Reinhard thanked Gert for his report and extended his gratitude to all members of technical committee and Interbull Centre staff. He asked the audience for any questions or clarifications for Gert but there were none. Therefore he moved to the next topic of the agenda, GenoEx-PSE, and invited Brian Van Doormal to present it.

## **5. GenoEx-PSE**

*The proposed new Genotype Exchange Parentage SNP Exchange (GenoEx-PSE) service, delivered to eligible users through the Interbull Centre, was presented during the Interbull Business Meeting on 24 October. Details of the GenoEx-PSE service were provided to ICAR members and the Interbull Community prior to the meeting.*

Brian thanked all the participants and informed the audience that his presentation would give an overview of the key components of the GenoEx-PSE project, further information and documentation are available in both ICAR and Interbull websites. Brian continued showing the principle of the project: sharing microsatellites for maintaining herd books' integrity. The service is voluntary; meaning that countries will be able to join whenever they feel comfortable or ready to do so. Policies have been established for countries leaving or joining the service, which is offered by ICAR through the Interbull Centre.

At the moment the service agreement has three (3) signatories: ICAR (as service provider), Interbull Centre (as delivering the service) and the country/service user. It was the GenoEx-PSE Implementation Task Force's recommendation to proceed with the current draft of the agreement with the 3 signatures in it. The Task Force will continue reviewing it but did not want this to be a reason for delaying the launch of the service.

Brian continued describing some technicalities of the project, from the different SNPs groups involved (200, 675 and 980) and presenting the different distributions of such groups across the genome. For the data exchange, countries will need to prepare two files. Only users with a signed agreement will be able to upload/download information. It is recommended that countries will do at least three full uploads/downloads per year closely following the MACE calendar. As for the fee, the Interbull Steering Committee recommended that the introductory fee of €1000 per year will be reviewed over time. Genoex-PSE is intended to be provided as a cost-recovering service, and the fee will need to be adjusted in line with future necessary costs for infrastructure and maintenance.

Benefits for the participating countries would be a quicker transition away from standard microsatellites, reducing or eliminating costs due to duplication of genotyping and a more accurate knowledge on bulls' daughters.

Reinhard thanked Brian for the clear presentation of the project and invited the audience to ask questions first on the PSE then also on the ICAR accreditation procedure.

João Dürr from CDCB, USA, asked about the difference on the 3 vs. 2 signatures in the agreement. Did the Task Force ask legal advice on this matter? According to the legal advice CDCB got from USA, a two-party agreement seemed to be better.

Brian answered that both SLU and ICAR had sought legal counsel on this matter. João commented that perhaps the role and responsibilities should be better described in the current agreement. Reinhard commented that there has been lots of discussion about this subject and regardless of the future modification it was decided that this should not prevent the launch of the service.

No questions about the ICAR accreditation procedure were raised. Reinhard thanked Brian and the group involved in the project. Toine informed the audience that a presentation of the GenoEx-PSE service is available at the ICAR stand with some of the Interbull staff available to answer some questions.

## **6. Requests and Suggestions from Interbull Users**

*Interbull users made a number of requests and suggestions to the Interbull Steering Committee, which were presented for further discussion and consideration at the Business Meeting.*

### **6a Refinement of ID information in Interbull files**

Gerben presented several common issues experienced by a few countries when receiving data from Interbull Centre, for example:

1) Importance to use unique identity of bull: in the last evaluation there have been a total of 65 potential duplicates detected, mostly bulls with small changes in their ID either at the breed level (RED/HOL) or small changes in the numerical part of the ID. Also, some countries tend to give one ID to the animal at birth and then another ID few years later, this practice is not good and leads to an increase in potential duplicate cases in IDEA. This is becoming an issue especially now with the genomic data available when bulls get in the market much earlier than before and therefore there is not enough time for organizations to provide all the necessary links in IDEA. Gerben reminded the audience of the importance of constantly uploading links into IDEA or always using the ID given at birth.

2) Breed issue: This issue is quite evident especially for Holstein and Red Holstein animals. There seems to be quite a lot of animals being coded differently in different countries, for example HOL/FR, HOL/RED, HOL/BWR for which the only difference in their ID is the breed code used. Gerben proposed to remove the breed code from the international ID at least for the young generation and add such information in a separate data field.

3) Country code: usually only letter code was allowed but recently also numerical country codes have been accepted, example USA and 840. The problem arises when countries processed the results data. Gerben proposed to agree with using only one set of code, either letter or numeric.

4) Potential duplicates: not all IDEA users are active processing the potential duplicate cases listed in IDEA. Serious consequences should be implemented for countries not doing their share of work in IDEA. Gerben concluded his presentation with some ideas for further improvements such as inclusion of additional information like herd books, short name, genetic recessive of bulls. Other countries than just the authoritative organization should be allowed to complete pedigree information.

Reinhard thanked Gerben for his contribution representing some good food for thoughts for new ideas and suggestions.

A mini-TF, consisting of Martin Burke, Gerben de Jong, João Dürr and Toine Roozen was proposed to address the ID issues raised.

### **6b. Use of AnimInfo for exchange of information on genetic traits**

The **World Holstein Friesian Federation (WHFF)** harmonised the codes and nomenclature for genetic traits to support its recommendation that genetic traits be reported to breed Herdbook official documents and be made available for data exchange. WHFF approached ICAR and Interbull with a request to assist with the **international exchange of information**

**on these genetic traits.** The possibility for Interbull Service Users to upload information on genetic traits for Holstein bulls will be tested with a small number of countries, and if successful introduced for other countries.

The Interbull Centre is receptive to requests for similar activities for other breeds, as long as the coding and nomenclature have been harmonised (at least) within breeds.

#### **6c. Genotype Data Exchange (GenoEx-GDE)**

**The Interbull SC and Interbull Centre have received requests** from current Interbull Service Users for prompt implementation of GenoEx-GDE for use in InterGenomics, Interbeef, and smaller Holstein populations, not involved with international consortia, for centralized exchange of SNP genotypes and possibly international genomic predictions (similar to Brown Swiss InterGenomics). Therefore, development of Genomic Data Exchange (GenoEx- GDE) services will be a priority for expanding the GenoEx services.

#### **6d. InterGenomics extended to other populations/breeds**

Marija Klopčič proposed that Interbull Centre should start with a service for **genotype pooling and genomic evaluation for Holstein populations**, similar to the InterGenomics evaluations of Brown Swiss populations. Several countries have already expressed interest in such service to Marija. If you are interested or like more information, please contact Marija Klopčič ([Marija.Klopacic@bf.uni-lj.si](mailto:Marija.Klopacic@bf.uni-lj.si)) from Slovenia, who will be leading this initiative.

### **7. Interbeef working group report**

The Business Meeting was provided with an update of the activities of the ICAR Working Group “Interbeef”, with a special emphasis on the opportunities and challenges expanding international evaluations of beef cattle to additional breeds, countries, and traits. Toine Roozen presented, these, in the absence of Andrew Cromie, with a special emphasis on the opportunities and challenges expanding international evaluations of beef cattle to additional breeds, countries, and traits.

## **8 Governance**

### **8a. Report on Interbull-ICAR Operations Task Force**

The Business meeting was informed of the activities in the Interbull-ICAR Operations Task Force where the relationship and agreements between ICAR, Service-ICAR, Interbull, Interbull Centre (SLU) and the Interbull Service Users have been addressed. New agreements are proposed by ICAR; if these have little influence on the current relationships with the Interbull customers and organisational structure, this process may be completed by June 2017. If however this would result in significant changes in the current relationships and organisational structure, this will be a main topic at the Interbull Meeting in August 2017.

### **8b. Nomination of Steering Committee member**

Reinhard Reents informed the Business Meeting about the suggestions for re-appointments



of members, as Enrico Santus' 4-year term came to an end. The Business Meeting unanimously supported a new term for **Enrico Santus**, who represents the countries Italy, Spain and Portugal on the Interbull Steering Committee. Enrico has always very actively supported the activities of the Non-Holstein breeds and one example of this is the establishment of InterGenomics, applied to the Brown Swiss breed.

Reinhard and the audience thanked Enrico for all his efforts and contributions to Interbull and looked forward to working another 4 years with him. Enrico's nomination will be proposed to the ICAR Board for endorsement.

## **9 Interbull Strategic Plan**

The Interbull Strategic Plan was presented with view on short-term and middle to long term Priorities. This included new traits, use of female phenotypes across countries, single-step model, and international SNP model.

## **10. Technical Workshop.**

On the basis of the Strategic Plan, a Technical Workshop will be held in Ljubljana, in **Ljubljana, Slovenia, on 6 and 7 February 2017**, addressing the following themes:

1. Adapt MACE to genomic selection:
  - a. Keep validation tests up to date
  - b. Single-step evaluations
2. International SNP model
3. R&D Network supporting Interbull services

The Technical Workshop will be aimed at technical staff at Interbull Service Users and researchers in the Interbull community.

## **11. Other Matters**

### **Organisation of Open meeting:**

Reinhard had asked the Business meeting for input into the organisation of the Open Meeting; The joint sessions of Interbull with EAAP are organised according to a tested protocol with input from the EAAP committees. Organising with ICAR provides a different situation, with wider audience, and it makes it therefore more difficult to plan all sessions.

In previous Open Meetings, the time for presentations varied depending on the number of papers. This had received good and bad comments.

This year a small number of papers had not been given the stage to be presented (even though they were good abstracts). This raised a problem with academic people who has applied for travel money.

During discussions in the Business Meeting it was raised that:

- it is not fair to cut the time for a presentation: 15 min is ok for presentations, although there are also trends that presentations become shorter: 'power presentations'.

- Whatever rules will be applied, it is important that these are communicated, so people submitting abstracts are aware of them.
- It might be possible to extend the meeting, or have a poster session.
- Panel discussions will depend on the coherence of a session; It is possible that only one paper can get all the attention.
- The timing for submission deadline is always late in order to have 'fresh' topics and encourage discussion; This may need to change in order to accommodate the changes in the rules for acceptance.

In order for participants to prepare for the meeting and prepare questions, there was a suggestion to have the presentations distributed ahead of the meeting.

The Steering Committee and Interbull Centre will take the above into account in planning future Open Meetings.

### **Close**

Reinhard thanked everyone for attending the meeting, thanked Toine for his fast adoption into his role at the Interbull Centre and closed the meeting.