



INTERBULL EXECUTIVE SUMMARY

No. 2022-2: APRIL-JUNE 2022

This executive summary reports the latest information about the Interbull Centre and important decisions taken during the Interbull Business Meeting of 31 May 2022, by the Interbull Technical Committee in their meetings of 26, 27, 28 and 31 May 2022, and by the Steering Committee in their meetings on 28 April, 29 May, 31 May and 29 June 2022.

2022 ICAR-Interbull Meeting

The 2022 ICAR-Interbull Meeting was held in Montréal, Québec, Canada, from 30 May until 3 June 2022.

Due to the Covid 2019 pandemic, the 2020 Annual Meeting was cancelled, and the 2021 Annual Meeting was organised as a virtual meeting. This was the first face-to-face annual

meeting since 2019, and it was very nice, interesting, and useful to see so many participants, during the Interbull Open Meetings and Business Meeting on Monday and Tuesday, 30 and 31 May 2022. A total of 129 registered to attend the Interbull meeting (with an additional 63 following online livestreams of the meetings).

During the Business Meeting the Interbull activities were presented by Interbull Chair, members of Interbull Committees and Interbull Centre staff, covering Interbull Governance, Interbull Centre's finances, services, R&D and operations (Dairy, Beef and SNP services).

The Open Meetings addressed *"New traits in genetic and genomic evaluation systems"*, *"Experiences at national level with single-step evaluations"*, *"New methods, validation, harmonisation, dairy cross-breeding and beef evaluations"*.

The ICAR/Interbull joint session titled *"Recording and selection tools for feed efficiency and environmental impact"* provided the participants with the latest updates on these relevant topics.

A big thank you to all speakers and participants, who have made this year's Meeting an excellent one!

Online Documentation (Interbull 2022 Annual Meeting)

Public materials for the Business Meeting are available on: https://interbull.org/ib/2022_bm_montreal.

Power point presentations of the Open Meetings and joint ICAR/Interbull session are available on the Interbull website. Please note that only the presentations of presenters who have granted permissions will be available:

- Open Meeting: https://interbull.org/ib/2022_scientific_programme.
- Joint session: https://interbull.org/ib/2022_icar_interbull_joint_session.
- The Proceedings of the 2022 Interbull Meeting will be published in Interbull Bulletin no. 57 from September 2022.
- Don't forget to check out the "Interbull Hall of Fame" for pictures of some highlights of the event, on <http://interbull30years.blogspot.com/>.





Interbull Steering Committee Membership

Sophie Mattalia ended her 16-year Interbull SC membership; We thank Sophie for her dedication during the 16 years on the Interbull SC.

During the Interbull Business Meeting on 31 May 2022, **Matthew Shaffer** and **Laurent Journaux** were proposed as Interbull Steering committee members, and subsequently endorsed by the ICAR Board during its meeting on 1 June 2022. **Matthew Shaffer** is an Interbull SC member since 2016, representing Oceania. Matthew is also the current Chair of the Interbull Steering Committee. **Laurent Journaux**, from France Génétique Elevage, was previously on the ICAR board and represents France and Wallonia on the Interbull SC.

Name	Representing	End of term
Gert Pedersen Aamand	Denmark, Finland, Sweden & Norway	2023
Urs Schnyder	Germany, Austria & Switzerland	2023
Gerben de Jong	UK, Netherlands & Ireland	2023
Daniele Vicario	Italy, Spain & Portugal	2024
Brian Van Doormaal	North America	2024
Marija Klopčič	Central & Eastern Europe	2025
Ezequiel Nicolazzi	North America	2025
Matthew Shaffer	Australia & New Zealand	2026
Laurent Journaux	France & Wallonia	2026

Interbull Governance Review

Chris Murphy and Matthew Shaffer reported during the Business Meeting in Montreal on the Governance Review, and the progress with following up on its recommendations respectively.

Matthew reported that, as a consequence of the recommendations of the Governance Review, the Interbull SC decided to disband the **Scientific Advisory Committee**. Matthew gave a special thanks to the current SAC members - Daniel Gianola, Mike Goddard and Ignacy Misztal - for their contributions through many years.

The summary of the Interbull Governance Review is available online: <https://interbull.org/ib/itbcreports>.

Interbull Service Fees

Brian Van Doormaal, chair of the Interbull Business Funding Models Task Force, reported during the Business Meeting on Task Force's need to address the challenges to continue funding the delivery of Interbull Services:

1. For many Interbull Service Users, the value of the Interbull services has changed over time; while the value of MACE may be decreasing, Interbull's quality assurance aspect is increasing.
2. Traditional and new services are continuously being improved and developed. The costs attached to the delivery of any of such services obviously need to be covered.
3. In general, costs go up every year, and this is true also at the Interbull Centre. Such increase needs to be reflected in the service fees.
4. Service fees have traditionally been based on the number of milk-recorded cows. The trend of a decrease in the number of milk-recorded cows continues, therewith reducing the service fee on the basis of the traditional model.

The Task Force will continue to work on models to overcome these challenges, therewith considering alternatives to number of milk-recorded cows, and taking the value of data contributions and services delivered into account.

Interbull Technical-Strategic Meeting

On 26 and 27 May 2022, the Interbull Technical Committee (ITC) held its first ever "Technical-Strategic Meeting", in Montreal. ITC members identified six topics relevant for future discussion:

- 1) Validation
- 2) Genomic preselection



- 3) Update Service Calendar
- 4) Near time data and results exchange
- 5) Better connection between NGECS and Interbull
- 6) Data mining for Interbull story telling.

Interbull Services:

Dairy evaluations: **MACE**, **GMACE** and **InterGenomics** April 2022 Routine evaluations (2204r) have been completed according to schedule. Slovenia officially joined the fertility evaluation for the interval traits (INT) with Holstein and Brown Swiss data.

Beef evaluations: **Interbeef** April 2022 Test evaluation (2204t) has been completed according to schedule. During this Test run the use genetic groups was introduced and new models from Ireland (submitting crossbred performances) and Switzerland-in calving traits evaluations were tested.

SNP and Exchange Services:

GenoEx-PSE: The features to deal with Parentage Discovery (for which the ICAR accreditation was launched during the ICAR meeting in Montreal) are already available in GenoEx-PSE. This means that GenoEx-PSE Service Users can request the Interbull Centre for permission to upload SNP data for both Parentage Verification and Parentage Discovery. ICAR accreditation will be required to download such data.

GenoEx-GDE: the new features improving the quality of the Service have been released in April 2022: Cross-reference ICAR Guidelines Section 4 - DNA Technology on genotypes quality control; connect GenoEx-GDE to IDEA.

Research & Development:

Interbull Genomic Reliability (GREL) WG (Chair: Zengting Liu)

The aim of the working group is to provide recommendation to countries, having a single step evaluation, on which method would be best to use. In this regard, the method developed by the working group in 2017, presenting a way to calculate the EDC reliability as the sum of the EDCconv and the EDCgain for all genomic and not genomic animals, is still considered as the base recommendation. Further improvements of the methodology will be provided and developed with time. The above methodology is already included among the available Interbull recommendations:

- https://interbull.org/static/web/A_supplementary_document_to_the_Interbull_genomic_reliability_method-1.pdf
- https://interbull.org/static/web/A_technical_document_on_derivation_and_application_of_adjustment.pdf

Interbull Trend Validation Tests WG (Chair: Esa Mäntysaari)

New validation tools are important. Not only to address genomic pre-selection bias due to the increased use of genomic data and their impact for inclusion of data in the MACE model, but also to comply with the EU regulations for marketing AI-bulls in the European Union. The working group is focusing its activities on improvement of the GEBV-test.

Interbull trend tests (tests I to IV) remain applicable for all countries without genomic evaluation. For countries having a genomic evaluation, such tests may still be applicable (especially tests I, II and IV) but in some cases the power of the test may be reduced due to the limited time-period that genomic selected bulls are used. Therefore, especially for test III, the number of accumulated daughters can be drastically reduced in some countries, reducing the power of the test itself.

Interbull Genomic pre-selection and Future MACE WG (Chair: Pete Sullivan)

The objective of the working group is to develop a new MACE model that will account for genomic pre-selection (GPS) effects on the Mendelian sampling distribution of the genomic pre-selected AI sires.

A preliminary version of the “GPS-MACE” model has successfully been tested on both simulated and real data (biased national EBV input used in MACE). This gave promising results, as presented during the 2022 Interbull Open Meeting. The WG will continue developing and testing the “GPS-MACE” model.



Recommendations for Harmonisation of Calving Traits in MACE

Interbull Centre reviewed the information provided in the latest GE Forms for Calving Traits evaluations performed at national level. Based on the collected information, a set of recommendations to harmonise calving traits proofs to be submitted for MACE evaluations has been finalised and approved by both Interbull Technical Committee and Interbull Steering Committee. National Genetic Evaluation Centres are requested to study the guidelines at their earliest opportunity of reviewing their calving model - especially if their across-countries correlations with the other participating countries are lower than expected. It is expected that within 3 years, all countries participating in the Interbull MACE Calving Traits evaluations have checked and, if applicable, applied such recommendations so that the quality of the MACE evaluations will be improved for all countries. The set of recommendations is available on: https://interbull.org/static/web/Recommendations_Harmonisation_Calving_Traits.pdf

New Traits Pipeline (Chair: Gerben de Jong)

A new pipeline for identifying next suitable traits to be included in the international evaluation has been created, and approved by the Interbull Steering Committee. Central part of the pipeline is the usage of the new PREP database (**P**erformance **R**ecording, **N**ational Genetic **E**valuation **S**ystems and **P**ublication **P**olicies), developed at the Interbull Centre under its role as a European Union Reference Centre. Both pipeline and database were introduced to the Community in a webinar organised on 31 March 2022. The take home message from the webinar was for organisations to start filling in the dedicated “other traits” form in the PREP providing information on potential next traits. We thank all users who have taken the time filling the required information. Preliminary results have been presented at the 2022 Interbull Business Meeting. Due to the quite high variation on the amount of information collected, we kindly ask users to continue populating and updating the “other traits” form in the PREP database until 30 September 2022.

SNPMace Pilot Run with InterGenomics-Brown Swiss

In the Executive Summary of 1 April 2022, we reported that both EuroGenomics and InterGenomics-Brown Swiss have recently been invited to participate on a collaborative basis in a SNPMace Pilot Run. Participants to the Interbull Business Meeting were informed that - although interested in the Interbull SNPMace project- EuroGenomics decided not to participate now in a Pilot Run due to resource constraints, and their focus on the equivalent EuroGenomics project.

InterGenomics-Brown Swiss also shared its interest in SNPMace, together with limitations in resources and possibilities. However, a SNPMace Pilot Run can be organised as Brown Swiss data from all InterGenomics countries may be used for Pilot Run. This would involve active participation by sub-set of countries; and production of input data for the other countries by Interbull Centre. As it is both feasible and interesting to perform a SNPMace Pilot Run with such a level of countries' participation, Interbull Steering Committee supported the idea of performing the SNPMace Pilot Run with Brown Swiss.

2023 Interbull Annual Meeting

The 2023 Interbull Annual Meeting will be held in conjunction with EAAP from 26 to 28 August 2023, in Lyon, France.

