



INTERBULL EXECUTIVE SUMMARY

No. 2024-2: APRIL - JUNE 2024

This executive summary reports the latest information about the Interbull Centre and important decisions taken during the Interbull Business Meeting of 21 and 22 May 2024, by the Interbull Technical Committee in their meetings of 18 and 21 May 2024, and by the Steering Committee in their meetings on 16 April, 19 May and 21 May 2024.

2024 Interbull Meeting

The 2024 Interbull Annual Meeting was held in conjunction with ICAR on 21 and 22 May 2024, in Bled, Slovenia.



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

Online Documentation (Interbull 2024 Annual Meeting)

Public materials for the Business Meeting are available on:

https://interbull.org/ib/2024_bm_bled

Power point presentations of the Open Meetings and joint Interbull-EAAP 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/2024_bled_scientific_programme
- Joint session: https://interbull.org/ib/icar_interbull_joint2024.
- The Proceedings of the 2024 Interbull Meeting will be published in Interbull Bulletin no. 60 in September 2024.
- 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

During the Interbull Business Meeting on 20 May 2024, incumbent SC member **Daniele Vicario** was proposed as Interbull Steering Committee member for a new 4-years term.



Long-standing member and Vice-Chair **Brian Van Doormaal** stepped down as representative of North and South America. **Filippo Miglior** has been nominated to the Steering Committee to represent this area in place of Brian. The nominations of Daniele Vicario and Filippo Miglior were forwarded to the ICAR Board on 22 May for endorsement.

Interbull SC Composition:

Name	Representing	End of term
Marija Klopčič	Central & Eastern Europe	2025
Ezequiel Nicolazzi	North & South America	2025
Matthew Shaffer (Chair)	Oceania, Asia & Africa	2026
Laurent Journaux	France & Wallonia	2026
Gert Pedersen Aamand	Denmark, Finland, Sweden & Norway	2027
Urs Schnyder	Germany, Austria & Switzerland	2027
Gerben de Jong	United Kingdom, Ireland, Netherlands & Flanders	2027
Daniele Vicario*	Italy, Spain & Portugal	2028
Filippo Miglior*	North & South America	2028

*subject to endorsement by the ICAR Board.

Interbull Technical Committee Membership

In 2024, two long-standing members of the Interbull Technical Committee (ITC) stepped down from their roles in the ITC: **Paul VanRaden** (USDA, USA) and **Tom Lawlor** (Holstein Association, USA). In January 2024, an expression of interest for being an ITC member was issued. A pleasing number of applications were received. Iola Croué (GenEval, France) and Hongding Gao (LUKE, Finland) were selected and appointed by the Interbull SC as ITC members for 4-years term. They joined the committee for the first time during the meetings scheduled in Bled.

Interbull ITC Composition:

Name	Organisation	End of term
Gerben de Jong	CRV, Netherlands (Chair)	2027
Zengting Liu	vit, Germany	2025
Raphael Mrode	SRUC, United Kingdom	2025
Valentina Palucci	Interbull Centre, Sweden	2026
Pete Sullivan	LACTANET, Canada	2026
Andres Legarra	CDCB, USA	2027
Jan-Thijs van Kaam	ANAFIBJ, Italy	2027
Iola Croué	GenEval, France	2028
Hongding Gao	LUKE, Finland	2028

New staff at Interbull Centre

We are pleased to announce the imminent arrival of two members of staff at the Interbull Centre.

Annika Kramer will join the Interbull Centre on 1 August 2024 as the EURC coordinator. Annika is currently finishing her European MSc in Animal Breeding and Genetics at SLU and



Wageningen University, where she writes about the relatedness and diversity in local Swedish goat breeds. For the past 5 years she has also fulfilled several positions in committees and student boards in various countries. Annika will bring communication, presentation and organisational skills to the team.

Gabriel Soares Campos is set to join the Interbull Centre on 1 September 2024 as a Genetic Data Analyst. Gabriel holds a PhD in Animal Breeding and Genetics from the University of Pelotas, Brazil. He focused during his PhD on genomic selection, genome-wide association studies and development of reduced SNP panel. Between 2018 and 2020, he was a visiting postdoctoral researcher at the University of Georgia, US. Over the past year and a half, Gabriel has been working as a postdoctoral researcher in the Department of Animal Science at Purdue University, US, working on genomic selection and different imputation methods. He has also been involved in the implementation of genomic selection for Angus cattle in Brazil.

Interbull Service Fees

Invoices for 2024 Services have been issued to Service Users in May 2024, with the MACE fee based on the “Number of Milk-Recorded Cows” as underlying metric – just like in recent years.

From 2025, the MACE service fee will be based on “5-Year Increase in Milk Daughters”, as it has been shown to provide the following advantages:

- Very objective statistic that can be validated by any MACE service user
- Can be calculated each year internally by Interbull Centre staff
- Directly related to data contributing to MACE based on the different breeds included.

In preparation of introducing the new fee model, each Service User will receive – for information only - information on the 2024 fee with “5-Year Increase in Milk Daughters” as underlying metric. Service Users should note that these fee calculations currently do not account yet for 1) Data truncation at the national level, and 2) Large/unexpected differences in consecutive years, and that further corrections may be required to address these.

No further changes to the fee for MACE, GMACE, Data Exchange Service are proposed at this stage.

New Traits

Since the New Traits Pipeline WG was activated in 2021, a pipeline has been developed and information on new traits have been regularly collected via PREP and reviewed. Participants of the 2024 Business Meeting were informed that this has led to the identification of several new traits to be added to the Interbull Portfolio:

- **“Gestation Length”** to be added into the current Calving trait group without an increase in the fee for this trait group.
- **Two new Trait Groups** to be created:
 - **“Claw Health”**, to include Digital Dermatitis, Interdigital Dermatitis, Interdigital Hyperplasia, White line disease, Sole Haemorrhage and Sole Ulcer.



- **“Metabolic Diseases”**, to include Milk fever/Hypocalcaemia, Clinical Ketosis and Sub-clinical Ketosis.

These two new trait groups will be offered as a MACE service. The related fee is still to be decided and will depend on whether the service will be offered as a “traditional MACE” or “MACE for SNP-training” only. The need to possibly include such new traits in the GMACE evaluation will also be considered.

During the Business Meeting a timeline for researching the proposed traits was presented with a proposed data call in October 2024. Following a request from the Business Meeting participants to speed up the research, the timeline will be reviewed, and Interbull Service Users will be informed about the new proposal at the earliest opportunity.

PREP Database

The Performance Recording, Evaluations and Publications Database (“PREPdb”) is developed and hosted at the Interbull Centre within the context of the Centre’s function as the European Union Reference Centre (EURC) for Zootechnics (Bovine breeding) with the role of promoting harmonization and improvements of the methods of performance testing and genetic evaluations. Electronic forms are currently available to collect information on performance recording and conventional genetic evaluations for most trait groups included in an international evaluation for Dairy (i.e. Production, Calving, Conformation and Female Fertility traits) and Beef (i.e. Adjusted weaning weight, Calving and Carcass traits). Development of the electronic forms for the remaining dairy traits (i.e. Udder health, Longevity and Workability) is currently under way and finalized before the end of 2024.

National Genetic Evaluation Centres are required to keep all information, as provided in the existing electronic forms, always up to date and in line with the latest changes implemented in their national evaluations.

Creation of new electronic forms to allow collection of descriptive genomic-related information are currently under development. As general information related to trait definition, recording methods, heritability etc. will already be available in the conventional forms, the new genomic forms will combine all trait groups together providing the following advantages:

- More efficient and easier for users to fill in the form.
- Common information such as trait definition, heritability, genetic variance etc. can be found in the related conventional forms.
- Possibility of copying information across different breeds/trait groups within the same form.
- Possibility of editing information

Interbull Services

Dairy evaluations: MACE, GMACE and InterGenomics April 2024 Routine evaluations (2404r) have been completed according to schedule. Listed below are some of the main changes implemented during the April 2024 MACE evaluation:

- **Jersey Longevity:** ITA participating for the first time



- **Simmental Production:** Inclusion of HUN data in the German (LFL) joint evaluation including data from Germany, Austria, Czech Republic, Slovakia and now Hungary
- **Brown Swiss Fertility:** First time for ITA providing data for two Interbull traits: HCO (Heifer's Conception Rate) and CC1 (Lactating cow ability to conceive 1)
- **Holstein Calving:** New data from GBR based on the Interbull Guidelines for Harmonisation of Calving Traits (https://interbull.org/static/web/Recommendations_Harmonisation_Calving_Traits.pdf).
- **Holstein Fertility:** **ITA changed trait definitions for two Interbull traits:** HCO (Heifer's Conception Rate) and CC1 (Lactating cow ability to conceive 1)

Beef evaluations: Interbeef April 2024 Test evaluation (2404t) has been distributed according to schedule. A parallel Interbeef test evaluation was also performed to assess the impact that the removal of old performance records, from countries no longer included in the Interbeef evaluation, would have had on the participating countries' results.

Research & Development:

Revision of Type of proofs codes: A technical working group has been activated on November 2023 with the aim of the working group would be to Review the current type of proofs codes and assess their relevance, assess the need for new coding describing new scenarios within the current genomic era, provide clear guidelines to countries on how to use such coding and consider all possible implications that such possible new coding could have on the requirements for an animal to be included in a MACE evaluation. The working group has started reviewing the current coding and their frequency of application and working closely with the Technical Committee to provide new recommendations.

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 April 2024, the working group has provided a new set of guidelines for approximating genomic reliabilities of the Single Step genomic model which have also been approved by the Interbull Steering Committee and made available on the Interbull website (https://interbull.org/static/web/Genomi_Reliabilities_Guidelines.pdf). The new set of guidelines also include guidelines for deriving Genomic Effective Daughter Contribution (GEDC) Gain.

The working group is continuing investigating on the applicability of the guidelines for small breeds (or new traits), the applicability of the same GREL adjustments for all sub-traits within a trait group and the possibility to use breed-specific genomic reliability adjustment in a multi-breed evaluation system.

Interbull Trend Validation Tests WG (Chair: Paul VanRaden)

An enhanced version of the new GEBVtest software was presented during the Interbull Technical Workshop held in Rome in February 2023 (<https://journal.interbull.org/index.php/ib/issue/view/69>) and during the Interbull Business Meeting in Lyon. The software has been, since then, further improved and it will be made



available to countries in August/September 2024. The working group will continue exploring new approaches for an enhanced Trend Test method III, in order to be able to apply the test to young genomic bulls as well and review the Mendelian Variance Test.

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 2023 Interbull Technical Workshop (<https://journal.interbull.org/index.php/ib/issue/view/69>). The WG will continue developing and testing the “GPS-MACE” model, with the aim of running a pilot test in late 2024.

Review Service Calendar WG

A new working group has been established to review the current dairy service calendar, with the aim of evaluating the following scenarios:

- Review the dairy service schedule and provide a plan to create some more time between the MACE pre-release and the start of GMACE, without increasing the overall time for the evaluation (so that latest MACE proofs could be used as input to GMACE).
- Review the dairy service schedule and provide a plan to look at the possibilities to reduce the overall evaluation time (previous MACE proofs would be used as input to MACE)
- Review the schedule and frequency of TMACE
- Explore the possibilities to allocate an extra test run during the month of May

A survey will be sent out to all MACE users to collect their feedback on some of the above-mentioned points so to provide a clearer starting point for the working group.

2025 Interbull Annual Meeting

The 2025 Interbull Annual Meeting will be held in conjunction with ADSA in Louisville, KY, USA. **Interbull Business Meetings, Open Meetings and joint Sessions will be organised on Saturday 21, Sunday 22 and Monday 23 June 2025.** Information about the venue and registration will become available on the ADSA website <https://www.adsa.org/Meetings/2025-Annual-Meeting>. Specific information about the Interbull meeting will be made available on the Interbull event page https://interbull.org/ib/2025_adsa_interbull.