Interbull Bulletin Issue 58 Proceedings of the 2023 Interbull Technical Workshop

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Introduction and content

Fifty-eight participants from 20 countries attended the 2023 Interbull Technical Workshop, which was organised in Maccarese Castle, near Rome (Italy), on 14 and 15 February 2023. Three technical sessions were organised to inform the community and collect their feedback, on key actual research topics:

1. "New Traits" (Expansion of Interbull Services portfolio),
2. "Validation" (New validation in the genomic era).
3. "Genomic Pre-Selection and Future MACE" and

Local Organisers

ANAPRI - Italian Simmental Fleckvieh Breeder's Association
AIA – Italian Breeders Association
Maccarese Farm s.p.a.
Interbull Centre

Program Committee

Pete Sullivan (Chair GPS and FutureMace WG)
Esa Mäntysaari (Chair Validation WG)
Gerben de Jong (Chair ITC and NTP WG)
Valentina Palucci (Interbull Centre)
Toine Roozen (Interbull Centre)

Sessions and themes

Session 1; Tuesday, February 14; New Traits

The Interbull Working Group on New Traits aims to identify the next suitable trait(s) to add to the Interbull portfolio. Prior to the Technical Workshop, the Interbull Centre had revived the invitation to Interbull Service Users and National Genetic Evaluations Centers to complete the "other traits" electronic forms available on the PREP database. The session was designed such that session participants could actively help in establishing future priorities.
(WG members: G. de Jong, E. Nicolazzi, T. Roozen, V. Palucci)

Speakers:

1. Gerben deJong - New Traits Pipeline (introduction)
2. Valentina Palucci - PREP & New Information Collected
3. Panel discussions (Moderator: Ezequiel Nicolazzi):
    - Raffaella Finocchiaro (ANAFIBJ – ITA)
    - Stefan Rensing (VIT – DEU)
    - Gert Pedersen Aamand (NAV – Denmark, Sweden, Finland)
    - Ezequiel Nicolazzi (CDCB – USA)
    - Urs Schnyder (QUALITAS, Switzerland)
    - Morten Svendsen (GENO, Norway)

Publications:

K. Haugaard, J. Sendecka, F. Macedo, E. Nicolazzi, G. de Jong, T. Roozen and V. Palucci. Interbull Technical Workshop 2023. Overview of the New Traits Session. Interbull Bulletin 58, 1-6

Session 2; Tuesday, February 14; **New validation methods in the genomic era**

The value of MACE and GMACE depends on the accuracy and unbiasedness of input from the member countries. Genomic selection has changed the usability of the current trend validation tests. Also, the test of GEBVs needs to be readdressed. The Interbull Validation Test Working Group has been working towards creating a new validation software that could better detect any traces of genomic pre-selection bias both in EBVs and GEBVs. The session was set up such that validation approaches outside the scope of the working group could be explored.
(WG members: E. Mäntysaari, P. Sullivan, R. Mrode, P. VanRaden, Z. Liu, V. Palucci)

Speakers:

1. Toine Roozen – Introduction
2. Esa Mäntysaari – Backgroud
3. Anders Legarra - Theory & actual experiences with method LR for validation tests
4. Pete Sullivan - New GEBVtest Program

5. Countries Reports; Experiences with new GEBVtest program:
- Pete Sullivan - Canada
- Zengting Liu - Germany
- Ezequiel Nicolazzi – USA
- H. Eding – The Netherlands
- U. Sanders – DFS (Denmark, Finland, Sweden)

Publications:

P.G. Sullivan. Updated Interbull software for genomic validation tests. Interbull Bulletin 58, 7-16

Z. Liu, H. Alkholder and R. Reents. Validating German Holstein single-step evaluations for test-day traits using Interbull's new GEBVtest software. Interbull Bulletin 58, 17-

R.R. Mota, E. Nicolazzi, T.M. McWhorter, P.M. VanRaden. Genomic validation software: USA results. Interbull Bulletin 58,

I. Jibrila and H. Eding. Experience with single-step GEBV validation in CRV Holstein-Friesian breeding program. Interbull Bulletin 58,

Session 3; Wednesday, February 15; Genomic Pre-selection and Future MACE

The Interbull Working Group on Genomic Pre-Selection and Future MACE was established to provide approaches to increase MACE robustness to Genomic Pre-Selection (GPS) bias. During this session the latest developments from the working group were presented, including updates on new MACE software to account for GPS effects on the distributions of breeding values over time. Additional speakers were invited to share experiences on dealing with pre-selection effects in national evaluations.
(WG members: P. Sullivan, G. de Jong, E. Mäntysaari, V. Palucci)

Speakers:

1. Pete Sullivan - Background
2. I. Jibrila - GPS in Single step
3. Pete Sullivan - National/International GPS
4. Ismo Stranden - Pre-selection approaches

Publications:

I. Jibrila, G. de Jong, and M.P.L. Calus. Genomic models account for genomic preselection by correctly estimating Mendelian sampling terms of preselected animals. Interbull Bulletin 58,

P.G. Sullivan, E.A. Mäntysaari, G. de Jong. Implementation of GPS-MACE accounts for genomic preselection. Interbull Bulletin 58,

I. Strandén, and E.A. Mäntysaari. Pre-selection approaches or some models with Mendelian sampling terms. Interbull Bulletin 58,