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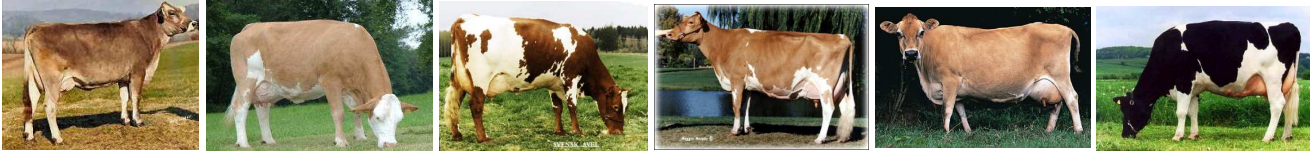


- *accurate genetic information*
- *for use by importers and exporters*
- *facilitating selection of the best genetics*
- *different countries, environments or breeding goals.*


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International Bull Evaluations



Dairy: Interbull
Beef: Interbeef



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Interbull Centre



European Union Reference Centre (EURC) for
Zootechnics (Bovine Breeding)

Promotion of **harmonisation** or **improvement** of the
methods of **performance testing** or **genetic evaluation**.

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Opportunities


Four opportunities of connections between

- EURC for Zootechnics and
- EURC for Endangered Animal Breeds.



Four opportunities building on current Interbull Centre Infrastructure and Activities

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COLLABORATION

1: PREPdb


SERVICE

- **Performance Recording, Evaluation and Publication Database (PREPdb)**
- A platform for breed societies and National Genetic Evaluation Centres to submit and **share descriptive information regarding performance recording, national genetic evaluation systems and publication policies** in a standardised way

BENEFITS

- Record and submit essential information for international evaluations online
- Enables collection of additional breed and trait information
- **Harmonises and standardises information**
- Common database for sharing and looking up information about various national genetic evaluations and data recording schemes

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COLLABORATION

1: PREPdb (Example - Dairy Production)

Organization	Submission Time	Production trait data (Dairy)	Type of evaluation - Dairy production	Criteria for official publication of evaluations	Data inclusion from	Data pre-adjustments for environmental effects	Heritability of the trait	Recording method	Sire categories	Trait definition - production
GEMBOUX	2023-03-06 13:28:21	Holstein (HOL)-milk	National evaluation	<ul style="list-style-type: none">Reliability minimum 50% for siresReliability minimum 50% for young bullsImported sires only with domestic resultsImported sires with INTERBULL results	1973	<ul style="list-style-type: none">Additive adjustmentsAge within lactation stage-breed	0.38	<ul style="list-style-type: none">recording- A scheme- E freq- 2recording- A scheme- M freq- 2recording- A scheme- T freq- 2recording- B scheme- M freq- 2	All sires	24-hour yield
NLBC	2023-01-06 06:17:19	Holstein (HOL)-milk	National evaluation	<ul style="list-style-type: none">Minimum 15 daughters in 10 herds	1985	N/A	0.50	N/A	All sires	24-hour yield Percentage of content
BFRO	2022-11-08 10:04:05	Holstein (HOL)-milk	National evaluation	<ul style="list-style-type: none">Reliability minimum 50% for siresReliability minimum 40% for females	2010	N/A	0.331	recording- A scheme- T freq- 4	All domestic AI bulls All foreign AI bulls	24-hour yield
QUALITAS	2022-06-27 10:52:26	Holstein (HOL)-milk	National evaluation	<ul style="list-style-type: none">Daughters with at least 3 TD-records in at least 10 herds	1987	<ul style="list-style-type: none">Adjustment factors estimated every runHeterogeneous herd-test day variancePhenotypic records adjusted for days pregnant	0.41	<ul style="list-style-type: none">recording- A freq- 4recording- A scheme- T freq- 4recording- A scheme- T scheme- M freq- 4	All sires	Accumulated yield/305d yield
NIAP	2022-05-09 11:47:06	Holstein (HOL)-milk	National evaluation	<ul style="list-style-type: none">Minimum 10 daughters	1995	N/A	0.33	<ul style="list-style-type: none">recording- A scheme- T freq- 1recording- A scheme- M freq- 2	All domestic AI bulls All foreign AI bulls	24-hour yield
ARC	2022-05-06 11:36:13	Holstein (HOL)-milk	National evaluation	<ul style="list-style-type: none">Minimum 20 daughters in 3 herdsReliability minimum 70%	1994	N/A	.49	<ul style="list-style-type: none">recording- B scheme- T freq- 2recording- B scheme- Z	All sires	24-hour yield Percentage of content
SASB	2022-04-25 10:39:06	Holstein (HOL)-milk	National evaluation	<ul style="list-style-type: none">Minimum 20 daughters in 10 herdsCows with phenotype	1988	N/A	0.222	recording- B scheme- C scheme- Z freq- 1	All sires	24-hour yield
ANAFI	2022-04-11 06:48:26	Holstein (HOL)-milk	National evaluation	<ul style="list-style-type: none">Reliability minimum 70%	2005	N/A	0.30	recording- A scheme- T freq- 1	All sires	24-hour yield

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COLLABORATION

1: PREPdb

BREED GROUPS

- PREPdb covers any cattle breed, regardless of participation in international evaluation services

TRAIT GROUPS

- PREPdb is a new db and aims to include all traits and trait groups. Detailed info is currently available for:
 - Dairy:
 - Calving
 - Production
 - Beef:
 - Adjusted Weaning Weight (AWW)
 - Birth Weight
 - Calving Ease (CAE)

PREREQUISITES


- Registration with Interbull Centre to the PREPdb platform to enter the information
- Open information look-up

OPPORTUNITY:

- Already available for information from any cattle breed.
- Possibility to extend traits and descriptions to specific needs.

prep.interbull.org/

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VALIDATION

2: EU Reference Centre Validation


SERVICE

- **Independent validation of genetic evaluation models using EURC Validation software**
- Introduced in August 2022
- Available to all breeding organisations and National Genetic Evaluation Centres- even if not participating in an Interbull genetic evaluation

BENEFITS

- Inclusive to countries, organisations, populations and breeds that do not participate in international evaluations
- Assists with the **harmonisation in methods and models between European countries**
- Provides a “**quality stamp**” on **conventional evaluation services** as required by the EU for bulls advertised in the European market

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VALIDATION

2: EU Reference Centre Validation

BREED GROUPS

- Covers all dairy breeds that have been registered with their national Competent Authorities in line with the “EU Animal Breeding Regulation”

PREREQUISITES


- Available to all European breeding organisations and their third parties (incl. National Genetic Evaluation Centres), officially recognised by their Competent Authority

OPPORTUNITY

- Use by small populations
 - Note; population size may limit relevance of tests

interbull.org/ib/eurc_validation

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EXCHANGE

3: Genomic Data Exchange


SERVICE

- Enables full genotype exchanges (whole SNP arrays) covering a variety of available genotyping chips
- Users have full access to their own genotypes plus genotypes obtained by exchange in the system
- Each user of the service has full control over which of their own genotypes it shares with other service users**, and which of those service users

BENEFITS

- An easy and safe exchange of genotype data (performing quality and pedigree availability checks)**
- Easy and standard for exchanging large genotype datasets
- Facilitates building reference populations
- Decreases costs by avoiding re-genotyping the same individuals
- Encourages development of genomic evaluations

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EXCHANGE

3: Genomic Data Exchange

BREED GROUPS


- GenoEx-GDE covers all beef and dairy cattle breeds
- GenoEx-GDE is in use for international Genomic Evaluations (InterGenomics)*

INTERBULL FEES

- To be confirmed*


OPPORTUNITY

- Use by breeds with small populations
- Use for storage, pooling or exchange



genoex.org


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COLLABORATION



4: Meet, Explore, Collaborate


Upcoming Interbull Annual Meetings



Lyon – 2023


26 August - 1 September 2023
Lyon
France





Bled – 2024

19 – 24 May 2024
Bled
Slovenia



interbull.org/ib/publicationsandevents

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COLLABORATION



In summary:



Four Opportunities to build on Interbull Centre Infrastructure and Activities:

- 1. Share descriptive information (“PREPdb”)
- 2. Perform EURC Validation Tests
- 3. Store, pool or exchange Genotypes (“GenoEx”)
- 4. Meet, Explore and Collaborate

Thank you