



PREP: A New Platform For Sharing Performance Recording And National Genetic Evaluations Information

Valentina Palucci

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THE GLOBAL STANDARD
FOR LIVESTOCK DATA





Outline

- Why sharing of descriptive information?
- A look at the current Interbull GE Form
- Interbull and EURC
- A look at the new PREP database
 - Benefits and Scope
- What's Next



Why sharing of descriptive information?

- ❖ After commencing of international evaluations...
- ❖ Specific “National Genetic Forms” have been derived from an initial survey done in 1985
 - One form per trait group
 - Later on adjusted also to collect *Genomic* national information
- ❖ Descriptive national genetic evaluation information for each and every traits evaluated internationally has been collected and shared on the Interbull webpage with the aim of:
 - Facilitating access of information
 - Transparency of methodologies applied
 - Infer on most common methodologies used
 - Provide feedback for countries starting to evaluate, or improving, a given trait
 - Provide support on interpreting international results
 - Provide opportunity for trait harmonization



A look at the current Interbull GE Forms

❖ Limitations of GE/GENO Forms:

➤ One form per *trait group*

- Difficult at times to provide same level of detailed information for each individual traits included in the group
- Questions not reviewed in a long time

➤ Format of questionnaire dealing only with description of national evaluation for international evaluation

- Not suitable for including description of phenotype recording
- Not easy to infer if differences occur between the official national evaluation and national data provided for international evaluation

➤ Free text

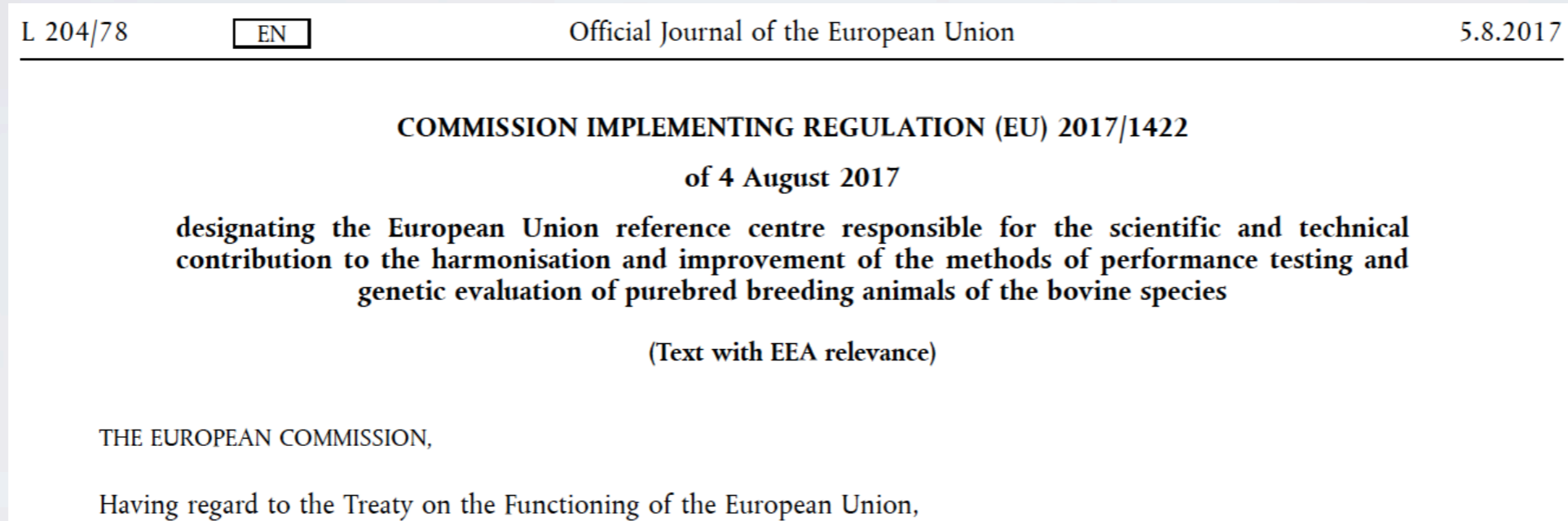
- Sometimes difficult to identify clear similarities across trait definitions, recording proceedings, methodology applied etc.

➤ Limited to traits currently evaluated at international level



Interbull & European Union

- ❖ Since 1996 Official European Reference Laboratory for Zootechnics
- ❖ From 2018: changes in EU Breeding Regulation, EURL_{ab} -> EURC_{entre}



- ❖ The 2018 Animal Breeding Regulation addresses, among other things:
 - *Rules for the recognition of breed societies and breeding operations and for the approval of their breeding programmes;*



Interbull & European Union

“Rules for the recognition of breed societies and breeding operations and for the approval of their breeding programmes”

What does it exactly mean for Interbull and Interbull Centre?

- Stricter interaction between EURC and national Competent Authorities (political bodies)
- Providing necessary platform for any breeding organisations or breed societies to:
 - Share publicly their performance recording and genetic evaluation procedures
 - Assess soundness of the models applied and refer back to C.A.

GE Forms and its current platform NOT UP for the job!



PREP: The New Interbull Database

<https://prep.interbull.org>



PREP Login Help ▾

Interbull PREP Database

Please, log in to use the system, or use a supplied direct link to fill in a form as a guest.

Welcome to the Interbull Performance Recording, Evaluation and Publication information database!

The PREP database 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 and enables users to upload descriptive information regarding performance recording, national genetic evaluation systems and publication policies.

The platform is accessible to all European and International Cattle breeding organisations whether or not they are involved in Interbull Centre's International Bull evaluations for dairy (Interbull) and/or beef (Interbeef).

You will need to register in order to access the platform. Contact Interbull Centre (interbull at slu.se) if you require access to it.

The latest user manual is available under **Help** in the menu.

- ❖ Database platform entirely developed and hosted at the Interbull Centre
 - Database language: PostgreSQL
 - Server side: powered by Python and Web2py
 - Client side: developed in JavaScript, jQuery and JSTree
- ❖ Enables users to upload descriptive information regarding **Performance Recording, National Genetic Evaluation systems and Publication Policies.**
- ❖ Accessible worldwide to all Cattle Breeding Organisations regardless of their involvement with Interbull activities
- ❖ β-version released in March



Why PREP? What are its Benefits?

PREP prepares us all for new opportunities

- **PREP** is widening the scope: sharing information for additional breeds, populations and traits
 - **PREP** will, with time, replace the way National Genetic Information (GE) forms will be displayed:
 - ❖ Descriptive information per *trait* rather than *trait-group*
 - ❖ Reviewed and Improved/Expanded questions
 - ❖ Electronic Forms rather than flat files
 - ❖ List of pre-defined answers rather than free text
 - ❖ Easy comparison of different information available
 - ❖ Providing information on traits beyond what is included in the current international evaluations
- Improving the content, details and quality of information reported
- Facilitating submission and frequency of updated information
- Improving harmonization and standardization
- Central part of a newly proposed pipeline for identifying next suitable traits to be included in the international evaluations



PREP: What is Currently Available

New electronic forms for:

- Organisation's information
- Revised Electronic GE forms for:
 - Production Traits (milk, fat, protein)
 - Calving Traits (calving ease, stillbirth – direct & maternal)
 - Forms populated with latest GE's information available
 - Other traits to be considered for international evaluation

The screenshot displays the PREP web application interface. At the top, there is a navigation bar with the Interbull logo, the text 'PREP', and links for 'Overview' and 'Log out'. A 'Help' dropdown menu is also visible. Below the navigation bar, the page is titled 'Forms'. The content is organized into three main sections:

- 1. Organization Info** [show/hide](#)
 - Organization**
Provide information about your organization
[Fill in blank form](#)
Submissions (drafts): 14 (35)
- 2. GE Dairy forms** [show/hide](#)
 - GE Dairy Calving**
[Fill in blank form](#)
Submissions (drafts): 30 (39)
 - GE Dairy Production**
[Fill in blank form](#)
Submissions (drafts): 57 (91)
- 3. Additional Info** [show/hide](#)
 - Other Traits**
Provide information for additional traits to be considered for expansion of the Interbull portfolio (for dairy or Beef evaluations)
[Fill in blank form](#)
Submissions (drafts): 103 (82)



A look at the new PREP database

- ❖ Each electronic form is made up of a series of questions in a tree-structure
- ❖ The tree-structure gets created ad-hoc depending on the number of breeds/traits defined by the user

PREP Overview Log out (logged in as vale) Help

Save | Submit | View current answers | View last save

Message:
orm:

1. Production traits

- 1.1 Production trait data (Dairy)
 - 1.1.1 Abondance (ABO)-milk
 - 1.1.1.1 Trait definition - production
 - 1.1.1.2 Recording method
 - 1.1.1.3 Data inclusion from
 - 1.1.1.4 Lactations/Parities
 - 1.1.1.5 Sire categories
 - 1.1.1.6 Data inclusion criteria
 - 1.1.1.7 Data extensions and adjustments procedures
 - 1.1.1.8 Evaluations and statistical models
 - 1.1.2 Abondance (ABO)-protein
 - 1.1.3 Abondance (ABO)-fat
 - 1.1.4 Aberdeen Angus (AAN)-milk
 - 1.1.5 Aberdeen Angus (AAN)-protein
 - 1.1.6 Aberdeen Angus (AAN)-fat
 - 1.1.7 Ayrshire (AYR)-milk
 - 1.1.8 Ayrshire (AYR)-protein
 - 1.1.9 Ayrshire (AYR)-fat

1.1 Production trait data (Dairy)

Mark all the breeds and traits you are recording from two drop-down lists and press add. This will allow you later on to copy information between the breed-trait combinations.

BREED	TRAIT	
Abondance (ABO)	milk	ADD
Aberdeen Angus (AAN)	protein	Add
Ayrshire (AYR)	fat	
Beef Shorthorn (BSH)	SNF (Soluble Non Fat)	



A look at the new PREP database

- ❖ Special in-built functionalities allows copying of answers between multiple sections
 - ❖ Possibility to further edit copied answers to adjust them to any specific breed/trait situation
- ❖ Possibility to either save partially filled form (for resuming work later on) or submit completed ones

PREP Overview Log out (logged in as vale) Help

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Message:

Form:

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 - 1.1.1.8 Evaluations and statistical models
- 1.1.2 Abondance (ABO)-protein
- 1.1.3 Abondance (ABO)-fat
- 1.1.4 Aberdeen Angus (AAN)-milk
- 1.1.5 Aberdeen Angus (AAN)-protein
- 1.1.6 Aberdeen Angus (AAN)-fat
- 1.1.7 Ayrshire (AYR)-milk
- 1.1.8 Ayrshire (AYR)-protein
- 1.1.9 Ayrshire (AYR)-fat

1.1 Production trait data (Dairy)

Mark all the breeds and traits you are recording from two drop-down lists and press add. This will allow you later on to copy information between the breeds combinations.

BREED

- Abondance (ABO)
- Aberdeen Angus (AAN)
- Ayrshire (AYR)
- Beef Shorthorn (BSH)

TRAIT

- milk
- protein
- fat
- SNF (Soluble Non Fat)

ADD

Source	Item	Copy target(s)
<input type="radio"/>	Abondance (ABO)-milk	<input type="checkbox"/>
<input type="radio"/>	Abondance (ABO)-protein	<input type="checkbox"/>
<input type="radio"/>	Abondance (ABO)-fat	<input type="checkbox"/>
<input type="radio"/>	Aberdeen Angus (AAN)-milk	<input type="checkbox"/>
<input type="radio"/>	Aberdeen Angus (AAN)-protein	<input type="checkbox"/>
<input type="radio"/>	Aberdeen Angus (AAN)-fat	<input type="checkbox"/>
<input type="radio"/>	Ayrshire (AYR)-milk	<input type="checkbox"/>
<input type="radio"/>	Ayrshire (AYR)-protein	<input type="checkbox"/>
<input type="radio"/>	Ayrshire (AYR)-fat	<input type="checkbox"/>

Copy source answers to target(s)

Invert target selection | Clear target selection



PREP: What is Next

- Inclusion of electronic forms for the remaining currently evaluated traits (*udder health, fertility, longevity, workability, conformation, interbeef traits*)
- Inclusion of electronic forms for genomic evaluations
- Improving the way information are displayed
- Developing “ready to use” query for getting quick and easy overview of the information
 - At countries level
 - At breed level
 - At methodology level
 - ...

The screenshot shows the 'PREP Overview' page. At the top left is the Interbull logo. To its right are the labels 'PREP' and 'Overview' (highlighted in a light blue box). Further right are the links 'Log out (logged in as vale)' and 'Help' with a dropdown arrow. Below the navigation bar is the heading 'Forms'. The main content is organized into three sections:

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 - GE Dairy Calving**
 - [Fill in blank form](#)
 - Submissions (drafts): 22 (0)
 - GE Dairy Production**
 - [Fill in blank form](#)
 - Submissions (drafts): 33 (1)
- 3. Additional Info** [show/hide](#)
 - Other Traits**
 - Provide information for additional traits to be considered for expansion of the Interbull portfolio (for dairy or Beef evaluations)
 - [Fill in blank form](#)



WELCOME TO PREP!!!!

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PREP

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Interbull Centre

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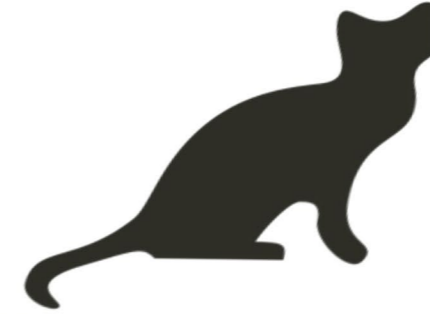
Welcome to the Interbull Performance Rec

The PREP database is developed and hosted to upload descriptive information regarding

The platform is accessible to all European and/or beef (Interbeef).

You will need to register in order to

The latest user manual is available



***THANKS FOR
LISTENING!
IT'S
TIME FOR
QUESTIONS!***