



Calving traits Harmonisation

Intrebull Open Meeting, Montreal, Canada



THE GLOBAL STANDARD
FOR LIVESTOCK DATA





Outline

- Why harmonise traits?
- Starting point
- Steps:
 - Diagnosis: the Calving traits situation
 - Identification of key issues
 - Guidelines
- PREPdb – Calving traits form

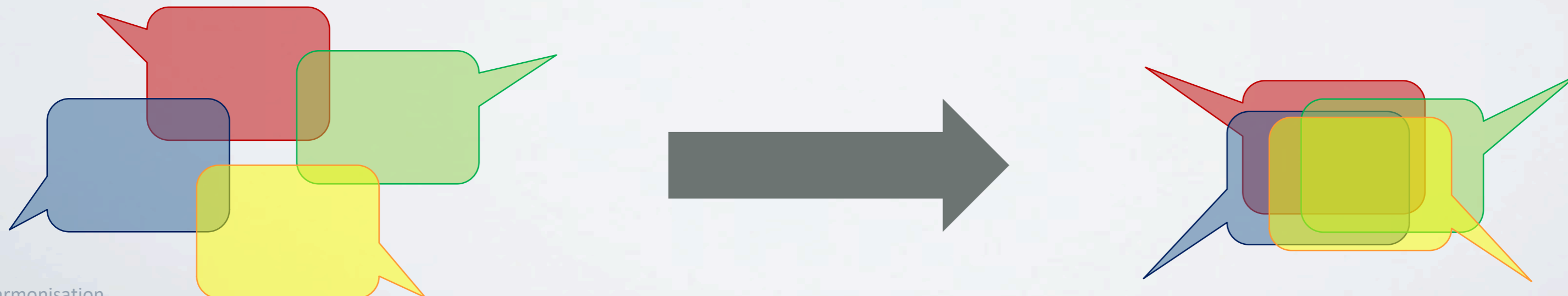




Why harmonise traits?

In the context of across countries evaluation, trait correlations play an important role in the quality of the estimations.

Harmonising traits helps to improve correlations and thus to achieve better international evaluations.





Starting point

April 2021

Presentation by Romain Saintilan (Interbull Open Meeting)

“Harmonization of maternal traits in Eurogenomics countries”

May 2021

ITC members (ITC meeting) requested Interbull Centre to summarise the information provided by the GE Forms by countries participating in MACE for Calving traits



Calving trait group in MACE

Calving ease (CE)

Direct effect (DCE)

Maternal effect (MCE)

Important repercussion in calf,
heifers and cows mortality.

Stillbirth (SB)

Direct effect (DSB)

Maternal effect (MSB)

Loss of replacement



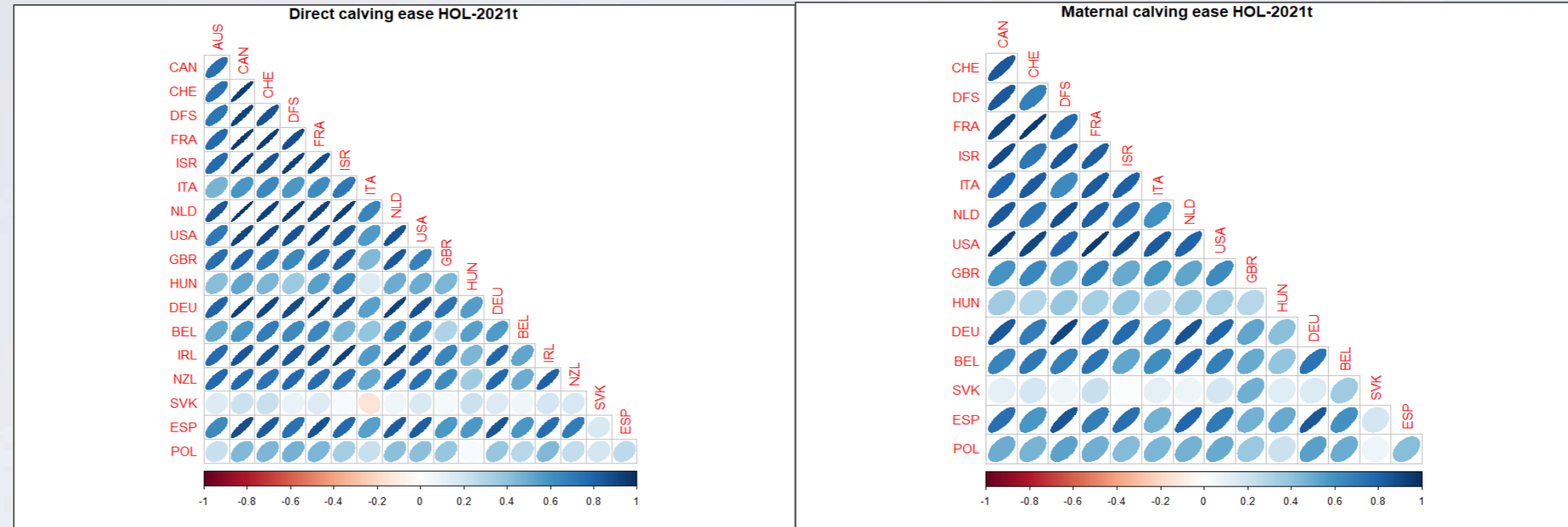
Calving traits situation: Correlations

Calving ease

Average

Direct: 0.62

Maternal: 0.58

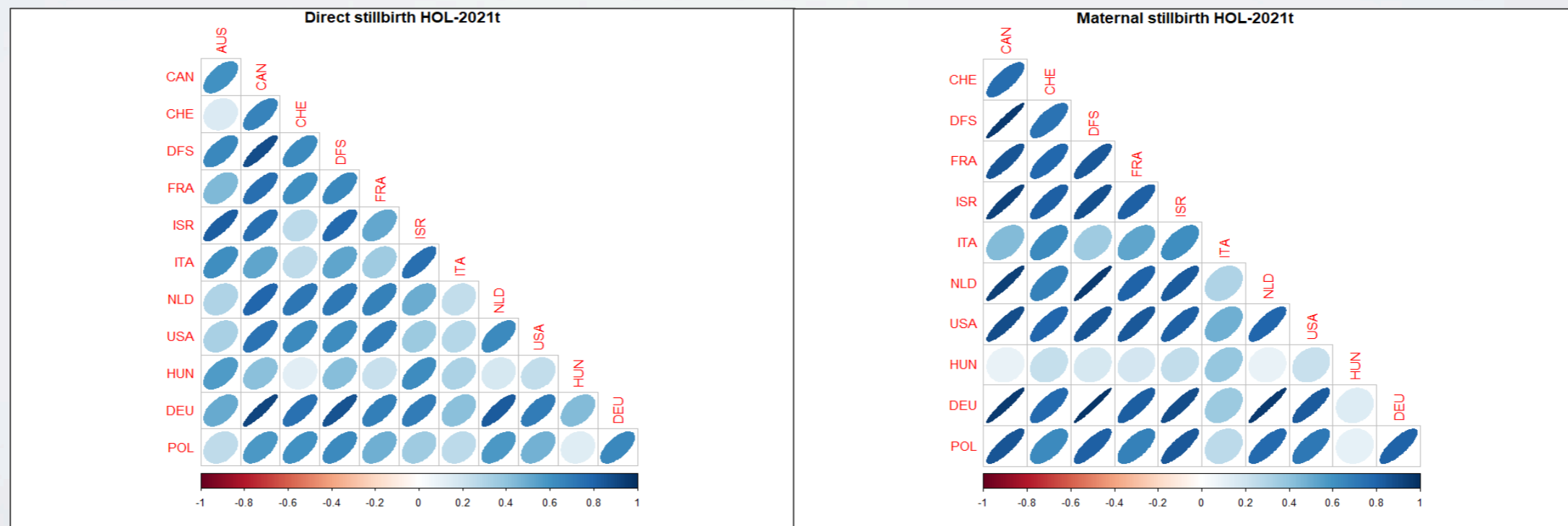


Stillbirth

Average

Direct: 0.54

Maternal: 0.65





Identification of key issues

- **Trait definition**
 - Several scales for Calving ease
 - Homogenous for Stillbirth.
- **Categories of phenotyped animals**
 - 1st parity
 - all calvings
 - index combinations.
- **Data editing**
 - Singles or twins
 - Embryo transfer
 - Data transformation
- **National Models**
 - Multi-trait vs Single-trait
 - Animal vs S-MGS
- **Trait substitution**



Categories of phenotyped animals

Parities:

1st calving only = 6 countries
all calvings = 11 countries
combination = 1 country

Correlations

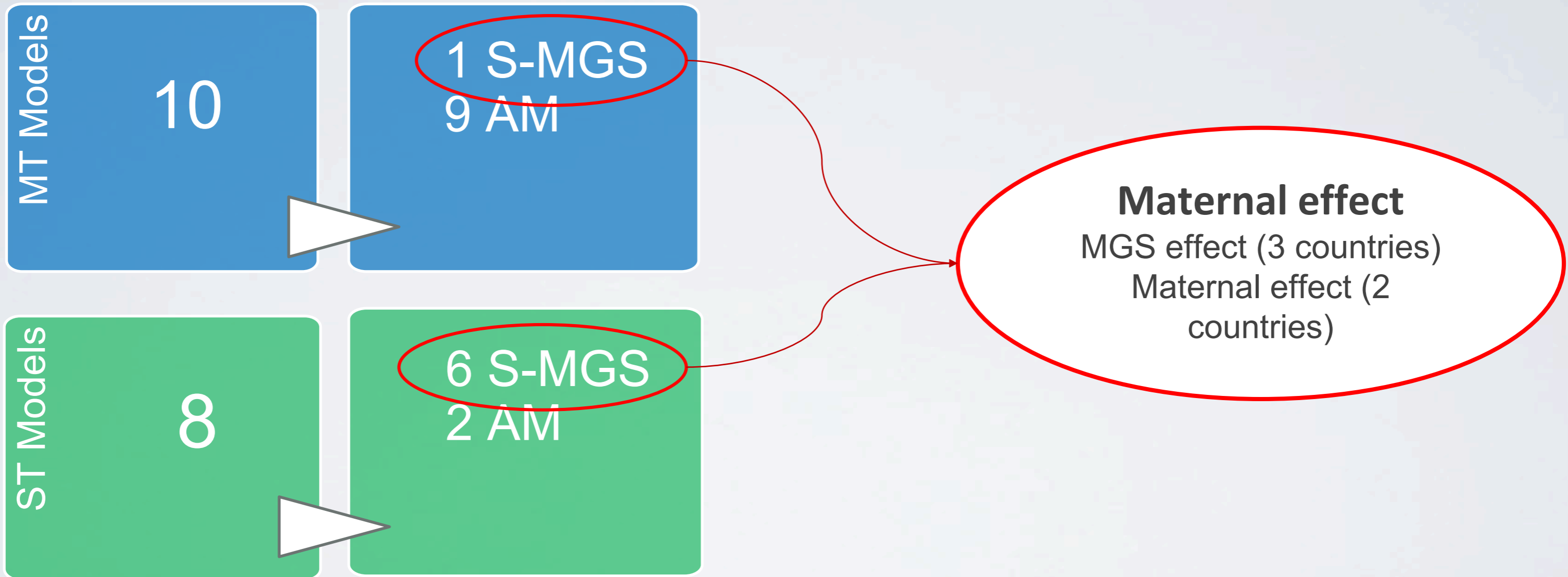
between 1st and later parities

(provided by the countries)

Direct calving ease - 0.83
Maternal calving ease - 0.72
Direct stillbirth - 0.77
Maternal stillbirth – 0.64



Maternal effect





Guidelines for recording and evaluation

- **Definitions:** recommended scales to record and evaluate the trait

Calving ease

Code	Description
1	Easy calving without assistance or unobserved birth.
2	Easy calving with some assistance.
3	Difficult calving (hard pulling, assistance by 2 or more persons, mechanical assistance).
4	Caesarean section.
5	Embryotomy.

Stillbirth

Code	Description
1	Calf alive.
2	Calf dead at birth.
3	Dead within 48 hours.

- **Categories of phenotyped animals:** send only 1st parity



Guidelines for recording and evaluation

- **Data editing**

- Only single traits event
- Embryo transfer can be included in the model
- Transformation of the data.

- **Evaluation model**

- Multi-trait Animal model considering CE (first parity), CE (later parities), SB (first parity), and SB (later parities) and fitting direct and maternal effects.
- In case of S-MGS models: recommendations on how to obtain direct and maternal effects

- **Trait substitution:** Countries are encouraged to submit only proofs estimated for each specific trait evaluated in MACE



Guidelines for recording and evaluation

The guidelines are recommended by **ITC**
and approved by **SC**



PREPdb – Calving traits form

- The harmonisation of calving traits has also allowed the development of a standardised question and answer form to be included in the PREPdb.

2. GE Dairy forms [show/hide](#)

GE Dairy Calving

[Fill in blank form](#) | [Edit form structure](#) | [Delete form](#)

Submissions (drafts): 31 (41)

GE Dairy Production

[Fill in blank form](#) | [Edit form structure](#) | [Delete form](#)

Submissions (drafts): 57 (93)

<https://prep.interbull.org>



Thank you for
your attention!

Questions?



