



## Research proposal for development of international beef genetic evaluations for calving traits



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## Outline / agenda

- Current situation with the research of calving traits
- Open questions and points for clarification
- Legal aspects of data protection
- Time schedule, factors with influence on time schedule
- Model
- Infrastructure
- Research proposal



## Traits and breeds available for the research in the Czech Republic (Dürr, 2012)

### Points for discussion and clarification

Country	Breed	Calving ease	Stillbirth	Birth weight
France	CHA, LIM	X	-	X
Czech Republic	CHA, LIM	X	-	X
Ireland	CHA, LIM	X mostly on crossbreeds	Few observation	Few observation
Denmark	CHA, LIM	X	X	X
Sweden	CHA, LIM	X	<u>???????</u>	X
Spain	LIM	-	-	X
<u>Finland</u>	<u>???????</u>	<u>???????</u>	<u>???????</u>	<u>???????</u>
Great Britain	LIM	X	-	X



There are some open questions and points for clarification





## Current situation with processes in our research





# Questions and points for clarification

Data call and deadline in mid-January

What is the situation in Finland and Sweden (Stillbirth)?



Use of data for research - agreement

Some selected points for the discussion with the Interbull centre

There are two new countries (Germany and Latvia)



A member of the team from the Institute of Animal Science will be available at the end of January  
The end of January or beginning of February is feasible for starting the calving traits research





## Technical questions for Interbull staff

- Some data was already sent and rest will be sent soon to the Interbull (deadline mid- January)
- Virtual computer is not available
- What means will Interbull use to deliver the data for our research team ?
- When will the virtual machine be available?
- In the later phase of our research, we would like to discuss and precise process of delivery of results to the Interbull





## Germany and Latvia



- There are two new countries (Germany and Latvia)
- Are they planning to participate?
- When we have data available for these new countries?
- Which traits and breeds will be available for purebred and crossbred animals?
- What methodology and models are used in these countries?
- In which phase we will include these new countries?





# Use of data for research and data protection

- The current draft about use of data in research and about the data protection **is acceptable for our research team (calving traits)**
- From a legal point of view, what is the best approach for the research projects?

## Short general guidelines

these define the general legal criteria about data protection and research proposal and are generally valid for all research projects



## Specific detail agreement

this is the specific detail legal requirements for a particular research proposal with the exact specification and formulation of details about data protection







## Research proposal and data protection Agreement

- There are three organisations involved in research in the Czech Republic: Czech Moravian Breeders' Corporation, Inc., Institute of Animal Science and Czech Beef Breeders Association with different responsibilities in this project
- Czech Moravian Breeders' Corporation, Inc. is an ICAR, Interbeef and Interbull member

**There are three possibilities as to who will sign this agreement about use of data in research from the legal point of view:**

- 1) Czech Moravian Breeders' Corporation, Inc. (this company ensures observance from other two partners)**
- 2) Czech Moravian Breeders' Corporation, Inc. and Institute of Animal Science (both ensure observance from Czech Beef Breeders Association)
- 3) All three partners

**What will be the schedule for this process of signing of the agreement? Deadlines?**





# The role of all partners and communication of results

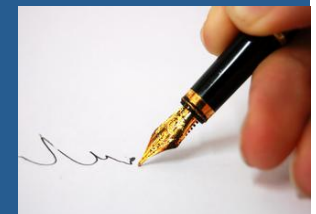
## Responsibilities

- Czech Moravian Breeders' Corporation, Inc.
- Coordination and management

- Institute of Animal Science
- Scientific matters

- Czech Beef Breeders Association
- Data uploading, preparation and downloading (for CR)
- Practical consultation relevant for our project

- Pavel Bucek, project leader, responsible for coordination and management,
- Partial reports, results regularly submitted every 2 months
- Contact: bucek@cmsch.cz





## Technical aspects of the research project

BLUPF90 family and SAS: we propose starting with the BLUPF90 program package and SAS

MIX 99

Later to add MIX 99, when it is available

- Financial sources available for the research of calving traits fully cover all points mentioned in our application
- The Institute of Animal Science has the necessary hardware capacities for the research and processing of extensive files
- In the case of time pressures and problems that may arise during the research, it is possible to use hardware sources at the Czech Moravian Breeders' Corporation



**We will have the actual information and be able to give feedback and new information to the participants when we have data available**

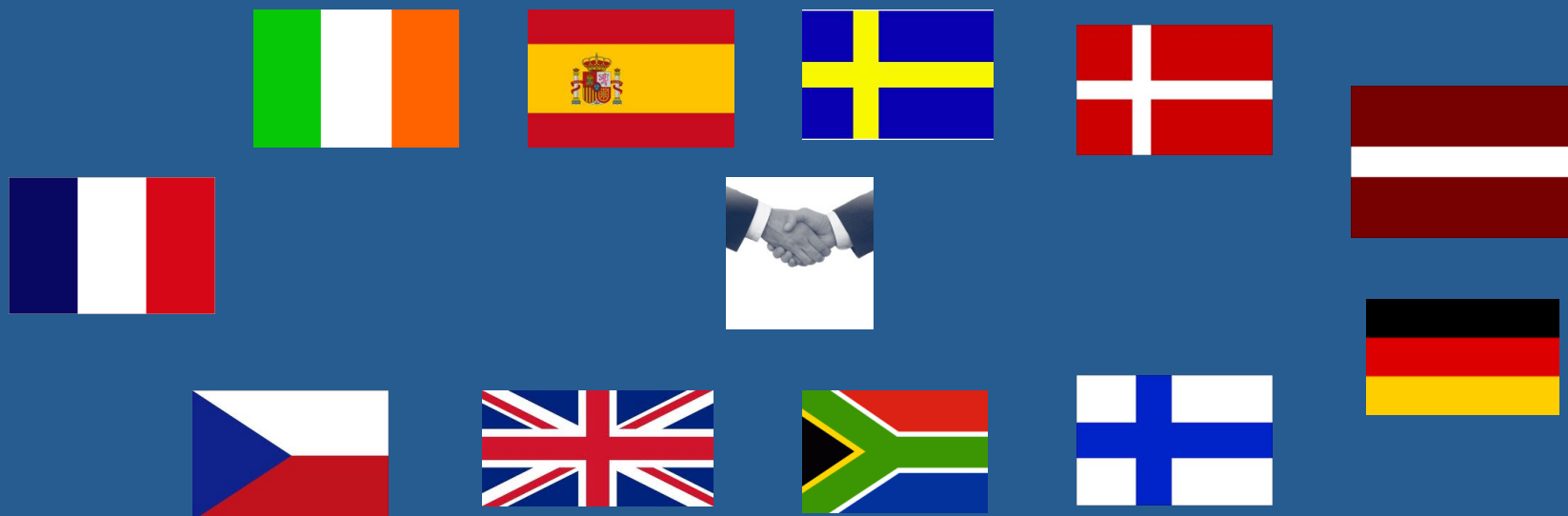
- This research plan can be implemented when we have received all requested data (point 0)
- And when all points are clear for all participant countries (when all open questions and points for clarification are resolved)
- **Our estimate is approximately one year**
- **our proposal is to start at the end of January 2013**
- **This time period can be shorter or longer** in the case of some problems that may arise (for example, we have received information that a country will be delayed with the requested files or some other similar problems)





## Breeding value estimation (prediction)

- An animal model on raw performance
- Bi- or multivariate analyses
- A sire model where the identification of the calf is not necessary
- The method proposed by Venot et al. 2009
- We prefer to analyse different options and find solutions acceptable for all partners





## Breeding value estimation (prediction)

- We propose to continue with the scientific and practical discussion when we will receive the data and finish the first analysis
- Research plan – on the basis of the first results maybe it will be necessary to adapt our proposal



**Outputs:** the first report after two months when we will receive data

Presentation during the technical committee in Denmark



## Working plan from the beginning of research to the meeting in Aarhus

- Analysis of the situation in participant countries
- Basic statistical analysis and checking of data files
- Identification of genetic connectedness between countries
- Preparation of input data files for genetic parameters estimation
- Preparation, testing of model equation and genetic parameters estimation on the data files within participant countries

Presentation in Aarhus

Discussion in the forum  
or by email



Key issue at the beginning  
of the research - provisional



# Selected factors that may influence the time schedule



## 2. Theoretical possible problems

New countries

Unexpected problems that may arise (dead calves without identification)

1.



**Practical problem that have solved or that we will have to solve**

Size of the files

Data quality

Wiping the files clear of extreme values

Correctness of data

Selection of appropriate data files

Pre-selecting of data

Estimation of genetic correlations

Responses to questions, etc.

- Estimation of genetic parameters and clearing of data will be the most time consuming element of the operation





# Thank you for your attention!

