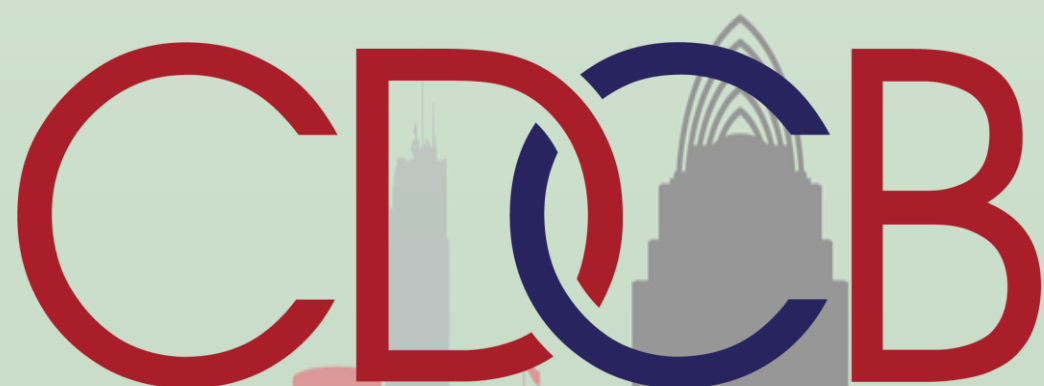




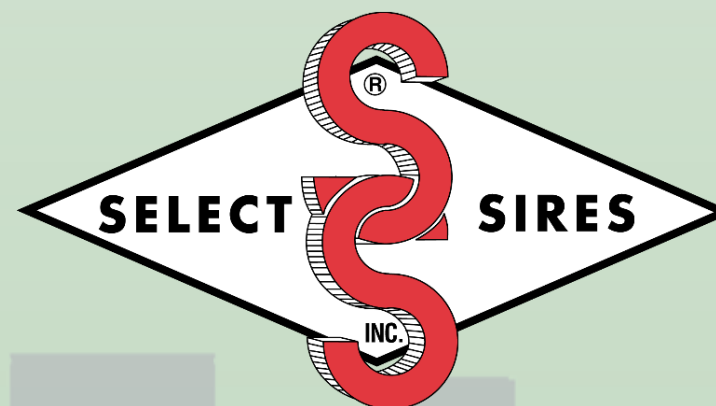
# **Thank you to the following sponsors for their support of the Interbull Annual Meeting**

**Silver**



**COUNCIL ON DAIRY CATTLE BREEDING**

**Bronze**





# **Business Meeting WELCOME BACK!**

Matthew Shaffer

DataGene Limited

Chairman Interbull Steering Committee



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FOR LIVESTOCK DATA



# Business Meeting Agenda

1. Welcome and adoption of agenda
2. ICAR, Interbull and Interbull Centre
3. Interbull Centre Report
4. Interbull Dairy Services (Evaluations and Validation)
5. Dairy R&D
6. Interbull Technical Committee Report
7. Governance
8. Patent for Artificial Selection Method and Reagents ("AVS patent")
9. BeefxDairy
10. Infrastructure Developments
11. Approaching new grounds
12. Future Events
13. Other Matters
14. Close



## **8 - Patent for Artificial Selection Method and Reagents ("AVS patent")**



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## 9 - Interbeef and 'Beef from Dairy'



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## Why is Interbeef important for Ireland?

				Weaning weight				AI usage	
		Bull							
		year of							
Evaluation	Bull tag	genotype	Direct		Maternal		Country	Irish	
			EBV	Rel.	EBV	Rel.	of use as AI	AI code	
CHA	CHAfram007121321470		146	75%	123	61%	DFS,FRA,IRL	SUX	
CHA	CHAfram007121216487		143	62%	122	37%	FRA		
CHA	CHAfram004807005638	2015	141	89%	133	76%	CZE,FRA,IRL	CH2218	
CHA	CHAIRLM221222841193	2014	140	61%	96	28%			
CHA	CHAfram007957090255		140	75%	155	64%	CZE,DFS,FRA,IRL	S1207	
CHA	CHAfram005895104725		139	77%	73	38%			
CHA	CHAfram004527660269		138	67%	122	46%	FRA		
CHA	CHAfram000393100604	2016	136	83%	99	72%	DFS,FRA,IRL	IGO	
CHA	CHAfram005703555188	2016	136	74%	152	58%	CZE,FRA		
CHA	CHAfram005249296732		135	71%	144	55%	FRA		
CHA	CHAfram000314552066		135	55%	109	20%			
CHA	CHAfram005810401501	2015	135	84%	93	66%	FRA,IRL	SDA	
CHA	CHAIRLM131485330266	2013	134	62%	90	15%			
CHA	CHAfram008592103408		134	77%	123	67%	CZE,DFS,FRA		

- Finding the **best** bulls globally, in the **most accurate** way.



# Interbeef Evaluations at ITBC



- **Recap; Estimation of International Breeding Values for Beef bulls**
  - Based on phenotypes, not EBV's.
  - 5 Breeds: Aberdeen Angus, Charolais, Hereford, Limousine and Simmental
  - 3 Evaluations / year (2 routine + 1 test)
  - 3 Traits: Adjusted Weaning Weight, Calving Ease and Birth Weight





# Interbeef Evaluations at ITBC



Interbeef	Jan 2017	Jan 2018	Jan 2019
Countries	7	7	9
Evaluation breeds	2	3	5
Country-breed-trait combinations	18	22	58
Animals in the pedigree database	28 256 603	29 965 798	35 109 302
Submitted phenotype records	7 890 490	8 234 838	40 734 117
International estimated breeding values	61 142 008	63 215 818	257 156 657
Distributed international estimated breeding values	1 344 841	1 407 786	6 805 936

\*IDEA: Interbull Data Exchange Area



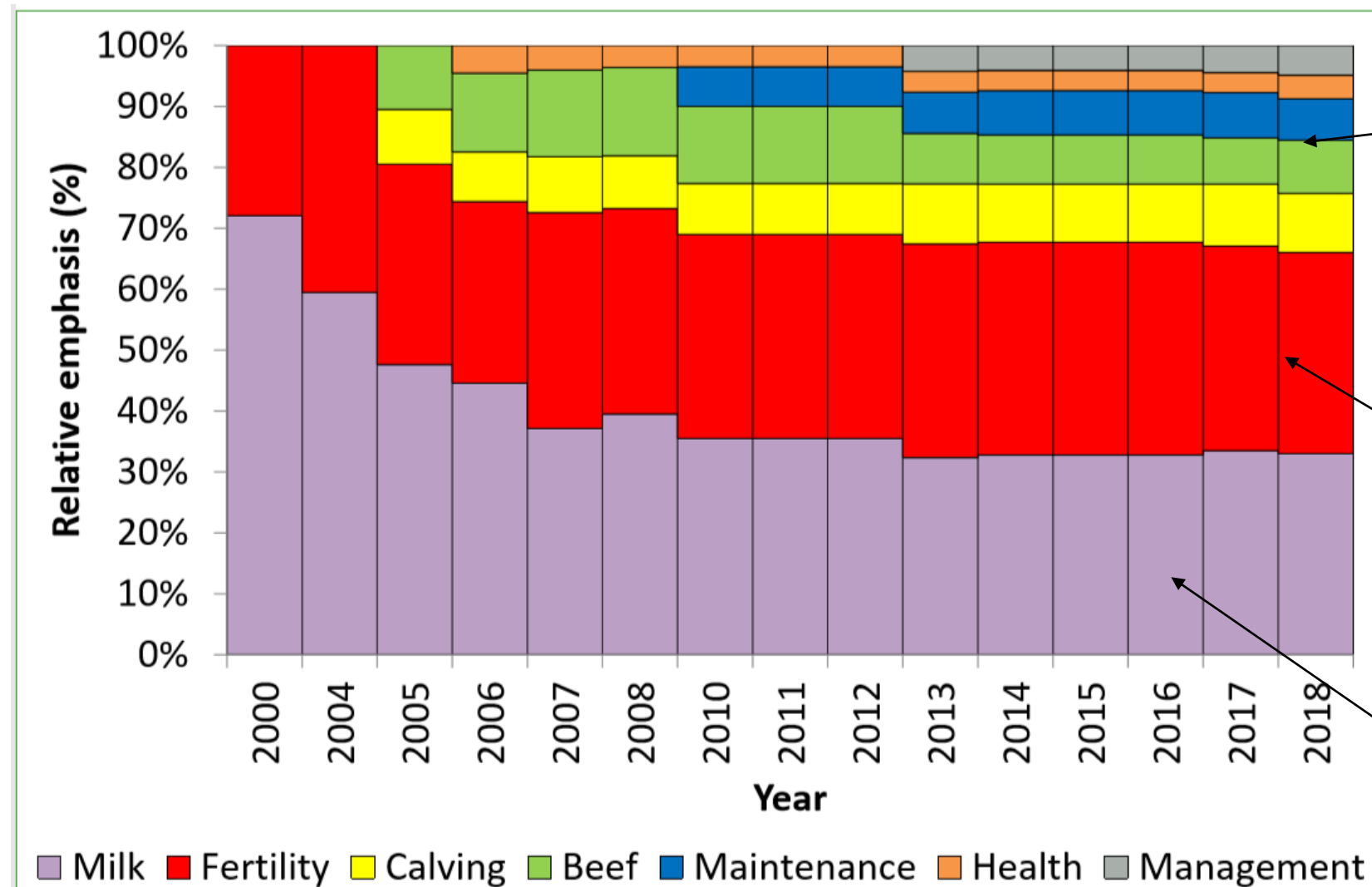


## Priorities for 2019/2020



- Evaluations for two new trait groups; female fertility & carcass data.
- International genomic evaluations for existing countries & breeds.
- Integration of International evaluations into National evaluations.
- Further development of phenotype & genotype database => Animal Movement Data Exchange System.
- More countries/organisations for existing breeds & traits => New pilot evaluation. “Try before you Buy”.
- Project with ABRI-Breedplan re: International evaluations for Hereford breed.
- New traits; Feed Intake/GHG & Beef from Dairy.

# Beef from the Dairy Herd => EBI 2000-2018



Cow cost  
versus calf  
value  
**18%**



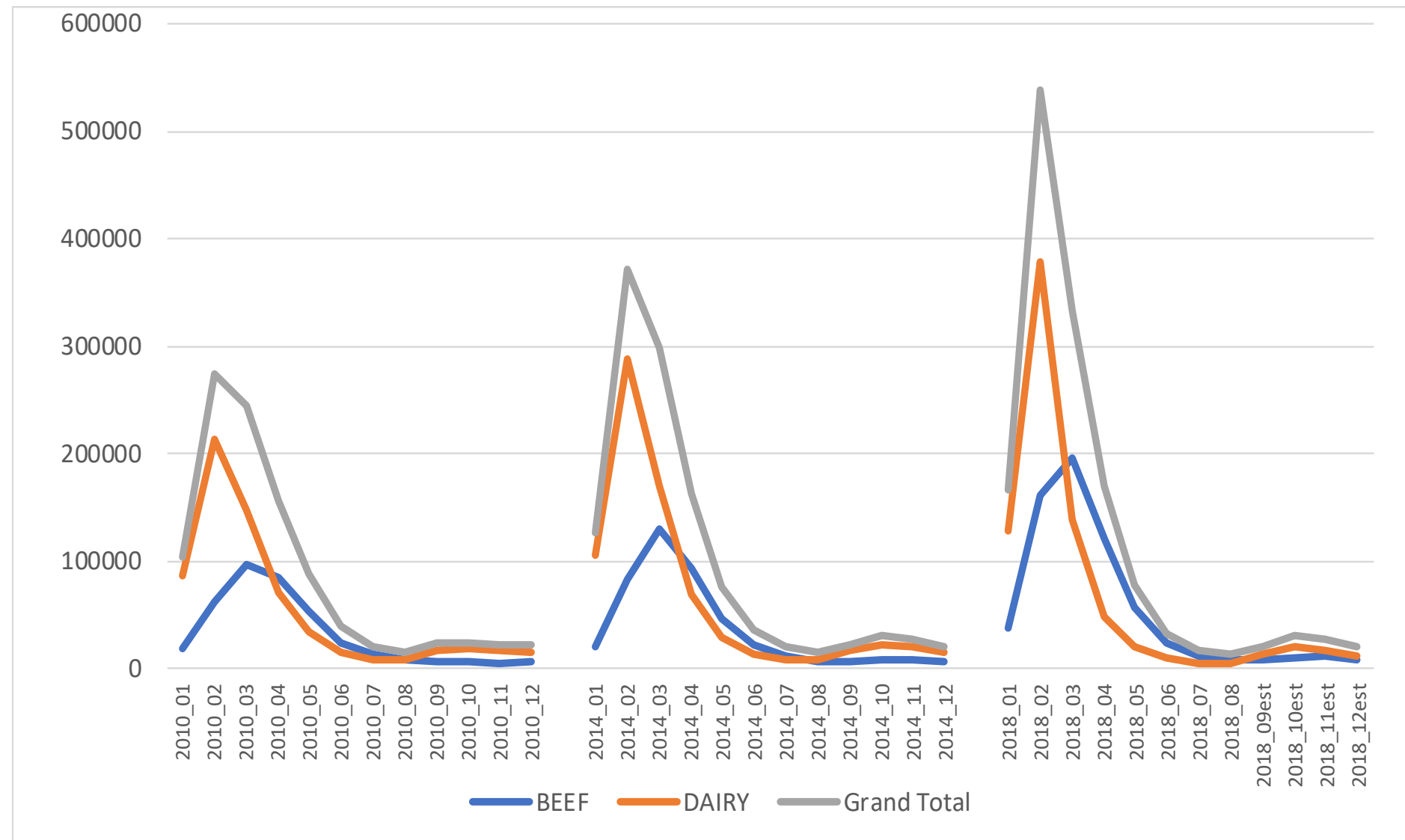
Fertility  
**35%**



Production  
**33%**

# Trends in Calf Birth Registrations (2010, 2014 & 2018)

- Irish dairy herd now 1.5m cows (+50%).
  - ~45% of dairy birth to a beef sire (~650k)
  - +20% in 2019.
- Increase in peak; 27% born in Feb 2010 (274k) versus 37% for Feb 2018 (538k)
- Dairy farmers select beef bulls based on easy calving



# But this comes at a cost => beef traits.

	AA Sire * FR Dam			FR Sire * FR Dam			JE Sire * FR Dam			JE Sire * JE Dam		
		%	%		%	%		%	%		%	%
Year	Cwt	<=280kg	<= O-	Cwt	<=280kg	<= O-	Cwt	<=280kg	<= O-	Cwt	<=280kg	<= O-
2014	312	18.1%	11.9%	308	21.0%	59.2%	267	65.8%	79.4%	247	83.8%	82.4%
2015	314	17.0%	13.6%	312	17.7%	61.3%	269	62.3%	80.7%	243	76.7%	76.7%
2016	321	12.2%	14.7%	316	13.3%	61.0%	274	59.3%	76.2%	244	81.1%	85.1%
2017	319	13.6%	16.9%	312	17.4%	66.2%	273	57.3%	81.6%	238	81.6%	85.1%
2018	316	16.1%	20.9%	308	21.1%	70.8%	273	60.3%	80.3%	259	70.9%	86.1%

- Selection on easy calving => reduction in carcass quality for dairy and dairy beef animals.
- Push to far => calf has “no value” => **Social license. Can farmers/rearers make money from these calves? Should we care?**

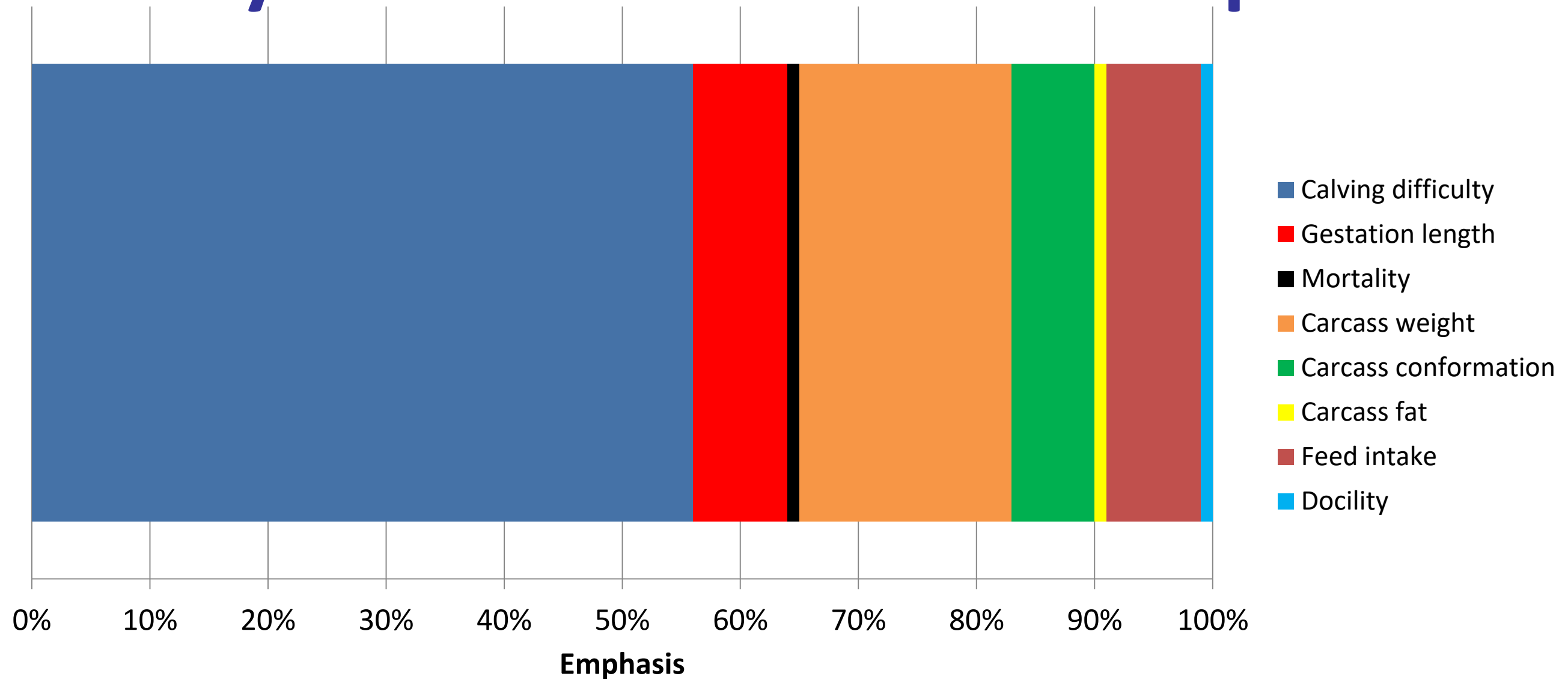
# Dairy beef index

- Developed in collaboration with ICBF and Teagasc
- Traits incorporated:
  - Gestation length
  - Calving difficulty
  - Calf mortality
  - Carcase weight, fat and conformation
  - Feed intake
  - Docility





# Dairy-beef index – relative emphasis



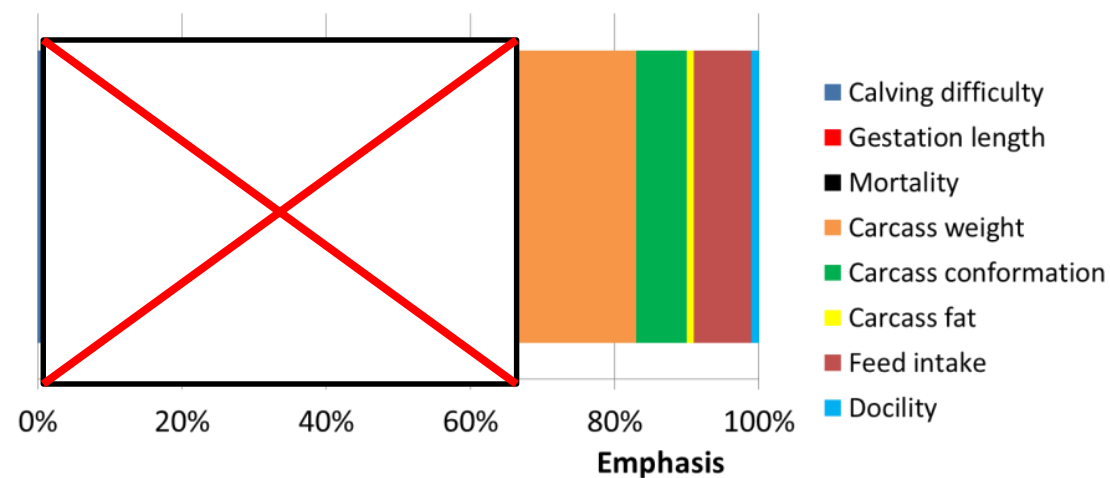
## Effect of non-linear calving

- Calving difficulty values in top ranked bulls more in line with farmer preference
- Acceptable changes in other traits

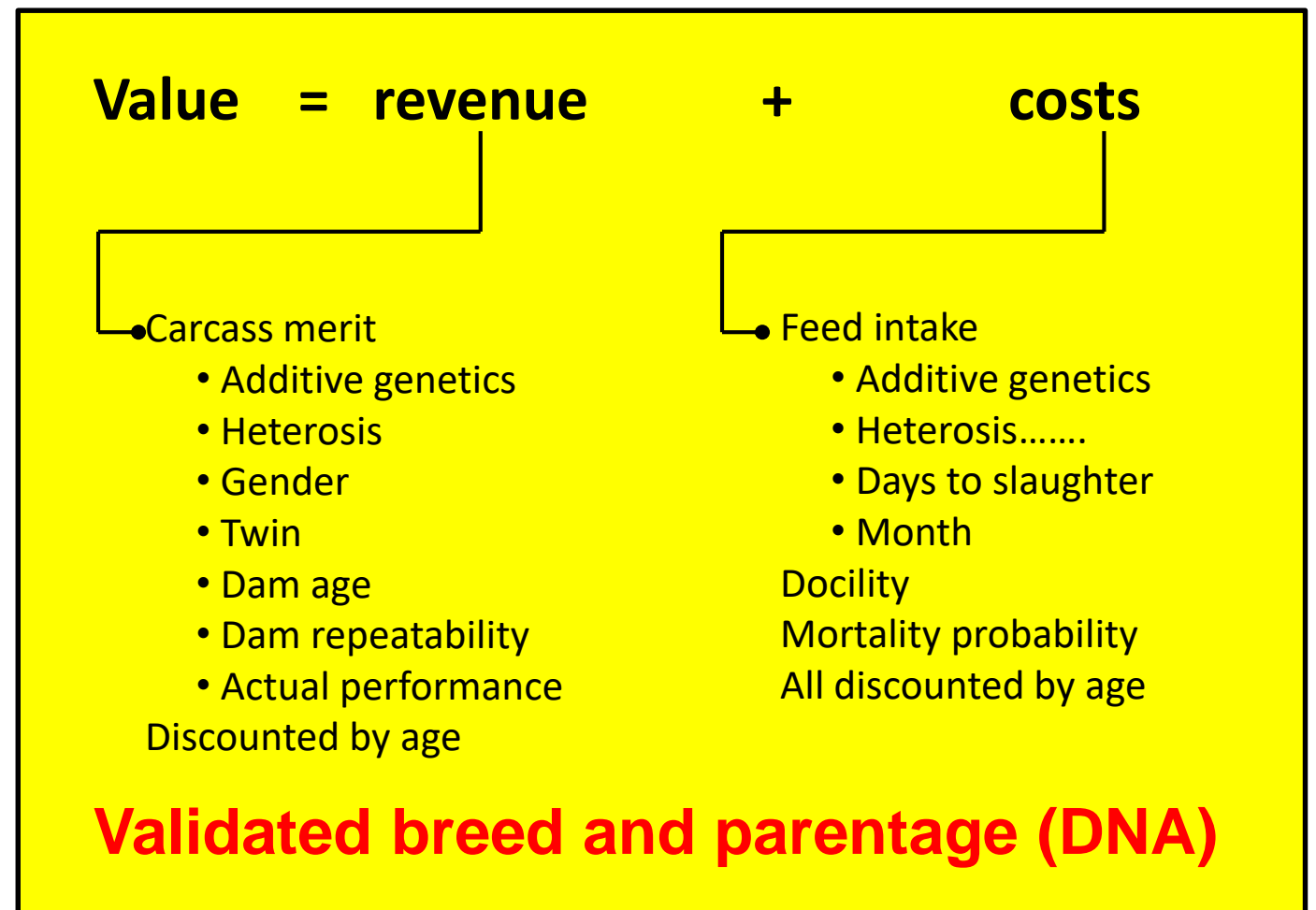
### Average PTAs of the top 30 ranked bulls on the DBI

Component PTA	Calving only	Linear calving DBI	Non-linear calving DBI
Dairy heifer % difficult	4.8	12.5	<b>7.8</b>
Dairy cow % difficult	1.5	7.5	<b>4.0</b>
Carcase weight	-0.87	34.23	27.17
Carcase conformation	0.58	2.77	2.08

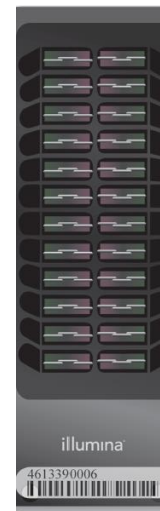
# Purchasing (dairy beef) calves



- Difference of €178/progeny between sires within Angus & Hereford breeds.



# Bringing it all together; DNA calf registration.



## Database predicts

Sire  
Dam  
Sex  
Breed

- Can we move to having Irish cattle herd genotyped.
- Very successful pilot project undertaken this Spring. Further pilot planned for this Autumn & Spring 2020.
- Benefits => 100% traceability based on DNA + more accurate data for genetic improvement (especially for traits of relevance for future e.g., GHG and Meat Eating quality).

## Output (by day 14)

EU Registration  
Parentage  
Genomic Evaluation  
Major Genes  
Herdbook (optional).  
Quality Assurance.





## Interbeef, Interbull & Dairy Beef.



- As member countries/organisations we are in a unique position to help address beef from dairy.
- We have a proposal that we would like to discuss with you;
  - Overview of Interbeef & how it works. Example using recent carcass trait data call.
  - Can we extend this R&D to include new countries & new breeds (i.e., dairy breeds, including beef on dairy breeds).
- If interested in hearing more, please join us after the Business Meeting in this room!





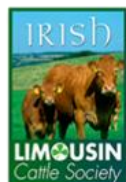
## Our Farmer & Government Representation



## Our AI & Milk Recording Organisations



## Our Herdbooks



## Acknowledging Our Members





# 10 - Infrastructure Development



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# 11 - Approaching New Grounds



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# 11a How to get input from Single Step National Evaluations into MACE



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# 11b New Traits for MACE – Results from ITBC Survey



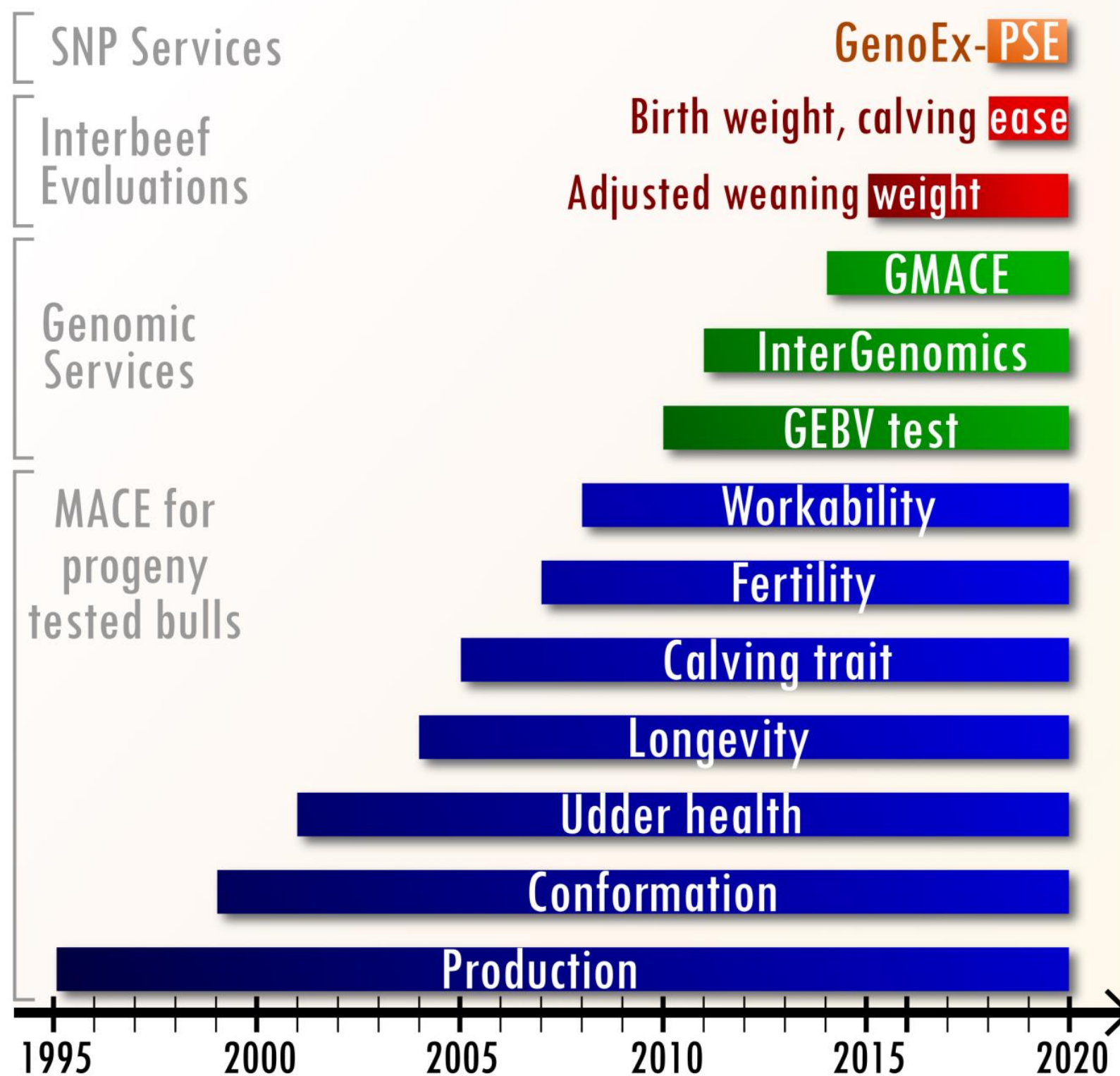
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# Interbull Portfolio





# Current Status of Participation in MACE

	<b>Prod (3)</b>	<b>Conf (up to 33)</b>	<b>Udder (2)</b>	<b>Long (1)</b>	<b>Calv (4)</b>	<b>Fert (5)</b>	<b>Work (2)</b>	<b>Tot (50)</b>
<b>BSW</b>	11	9	10	10	6	9	7	<b>62</b>
<b>GUE</b>	5	4	5	5	-	5	-	<b>24</b>
<b>HOL</b>	30	23	29	20	17	20	11	<b>150</b>
<b>JER</b>	12	10	9	9	-	9	6	<b>55</b>
<b>RDC</b>	15	10	14	12	7	11	7	<b>76</b>
<b>SIM</b>	13	-	12	6	-	-	-	<b>31</b>
<b>Tot</b>	<b>86</b>	<b>56</b>	<b>79</b>	<b>62</b>	<b>30</b>	<b>54</b>	<b>31</b>	<b>398</b>



# Possible Expansion of MACE Portfolio

- Any interest towards existing evaluated traits for:
  - GUE (calving, workability)
  - JER (calving)
  - SIM (calving, fertility, workability)

	Prod (3)	Conf (up to 33)	Udder (2)	Long (1)	Calv (4)	Fert (5)	Work (2)
BSW	11	9	10	10	6	9	7
GUE	5	4	5	5	-	5	-
HOL	30	23	29	20	17	20	11
JER	12	10	9	9	-	9	6
RDC	15	10	14	12	7	11	7
SIM	13	-	12	6	-	-	-
Tot	86	56	79	62	30	54	31





# Expansion of MACE portfolio?

- A survey was conducted to assess feasibility for expansion of MACE portfolio regarding following traits:
  - **Claw Health** (incl. sole ulcer, digital dermatitis, heel horn erosion, sole hemorrhage, white line disease)
  - **Metabolic Diseases** (incl. ketosis, acidosis, hypocalcaemia)
  - **Fertility Disorders** (incl. metritis, retained placenta, displaced abomasum)
  - **Calf Survival**
  - **Cow Live-Ability**
  - **Persistency of Lactation**
  - **Udder Health** (incl. early/late lactation's mastitis, combined mastitis)



## General Information

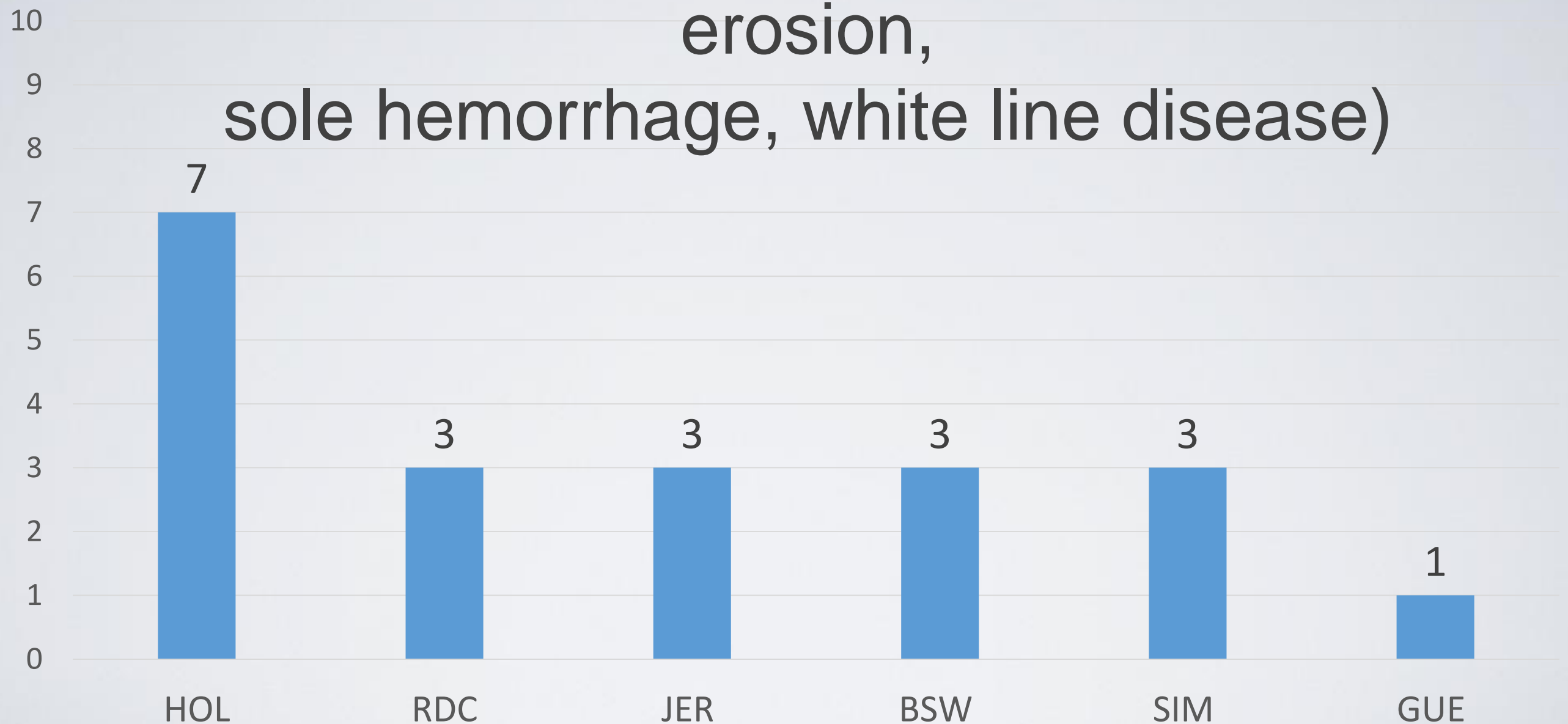
- The survey has been sent to a total of 36 NGCs' representatives
  - 27 full responses, 3 partial responses
- The present results are based on the combined 30 responses





# Claw Health

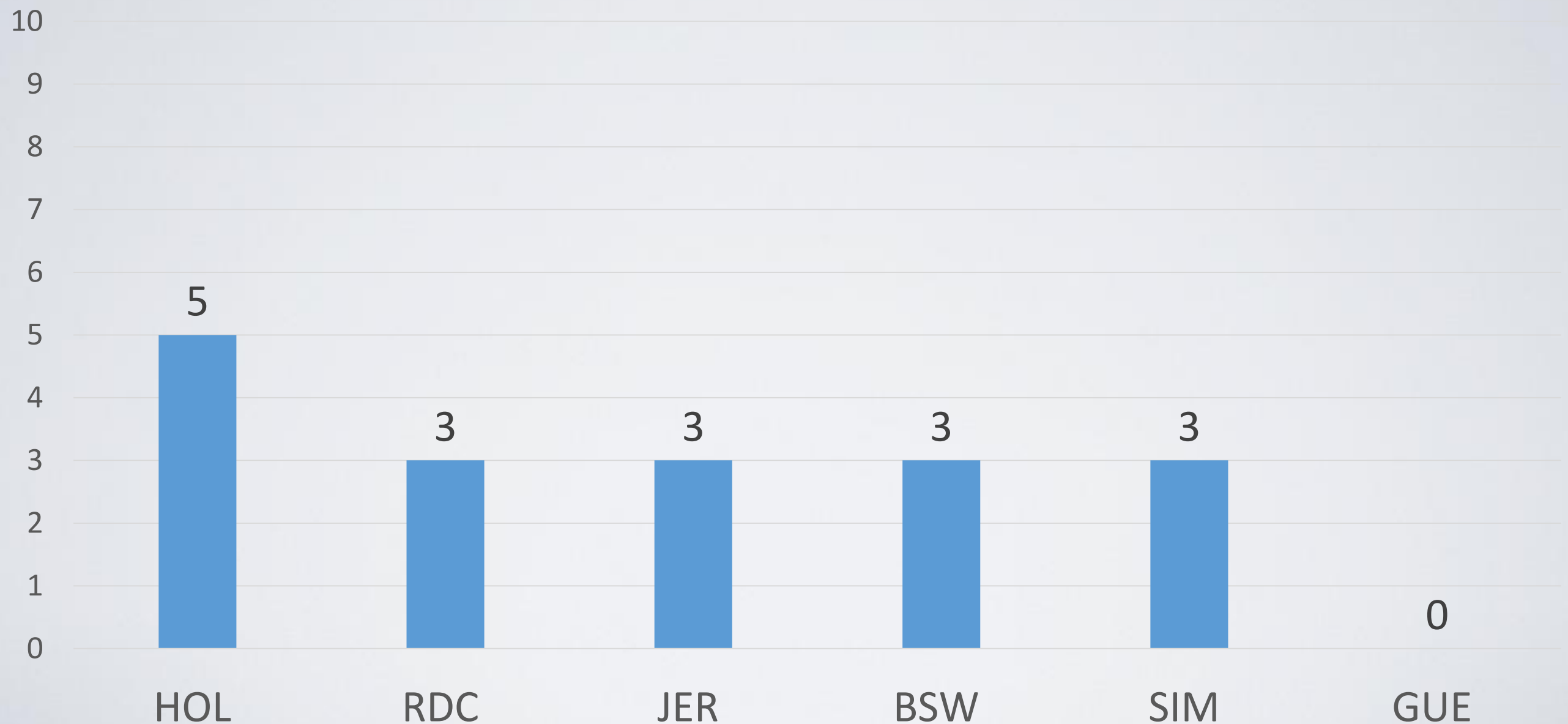
(sole ulcer, digital dermatitis, heel horn erosion,  
sole hemorrhage, white line disease)





# Metabolic Diseases

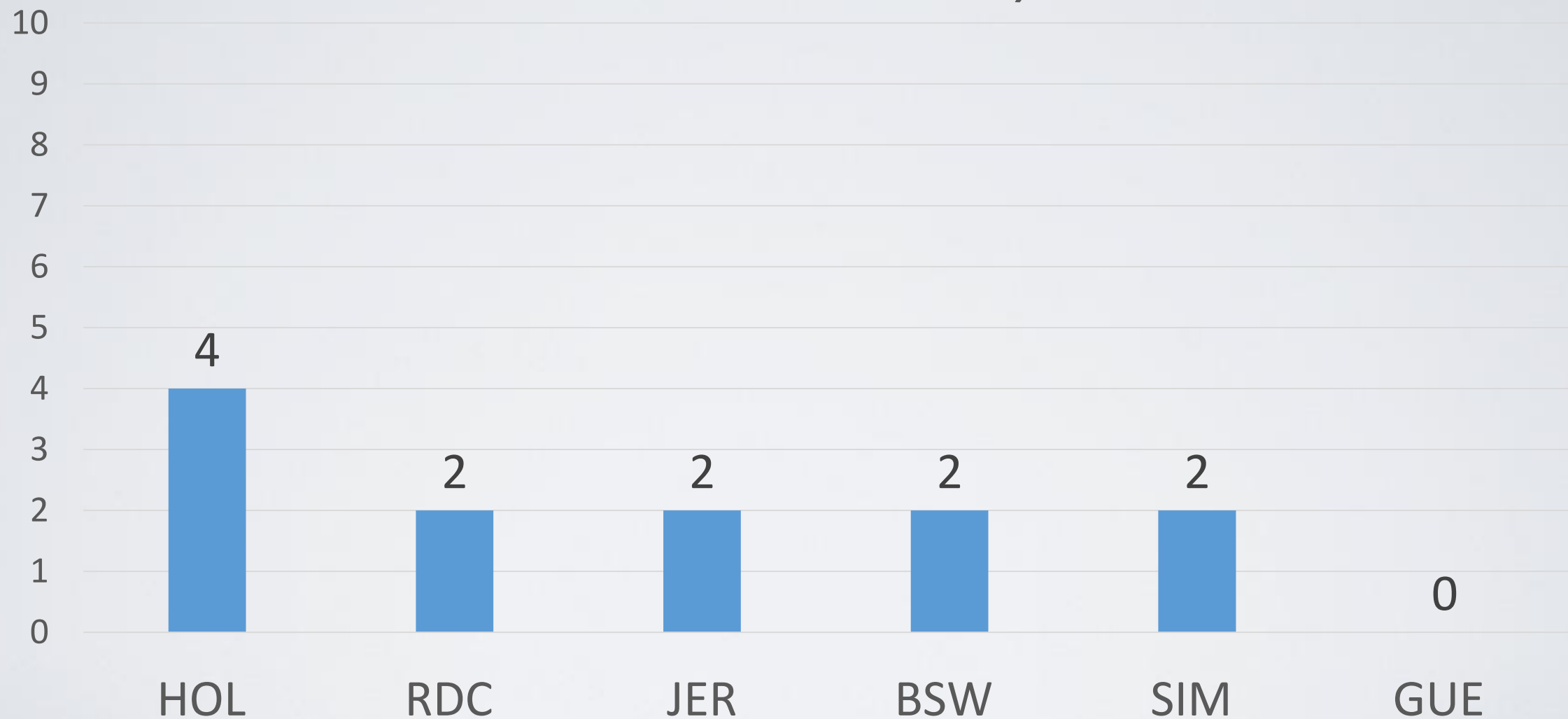
(Ketosis, Hypocalcaemia)





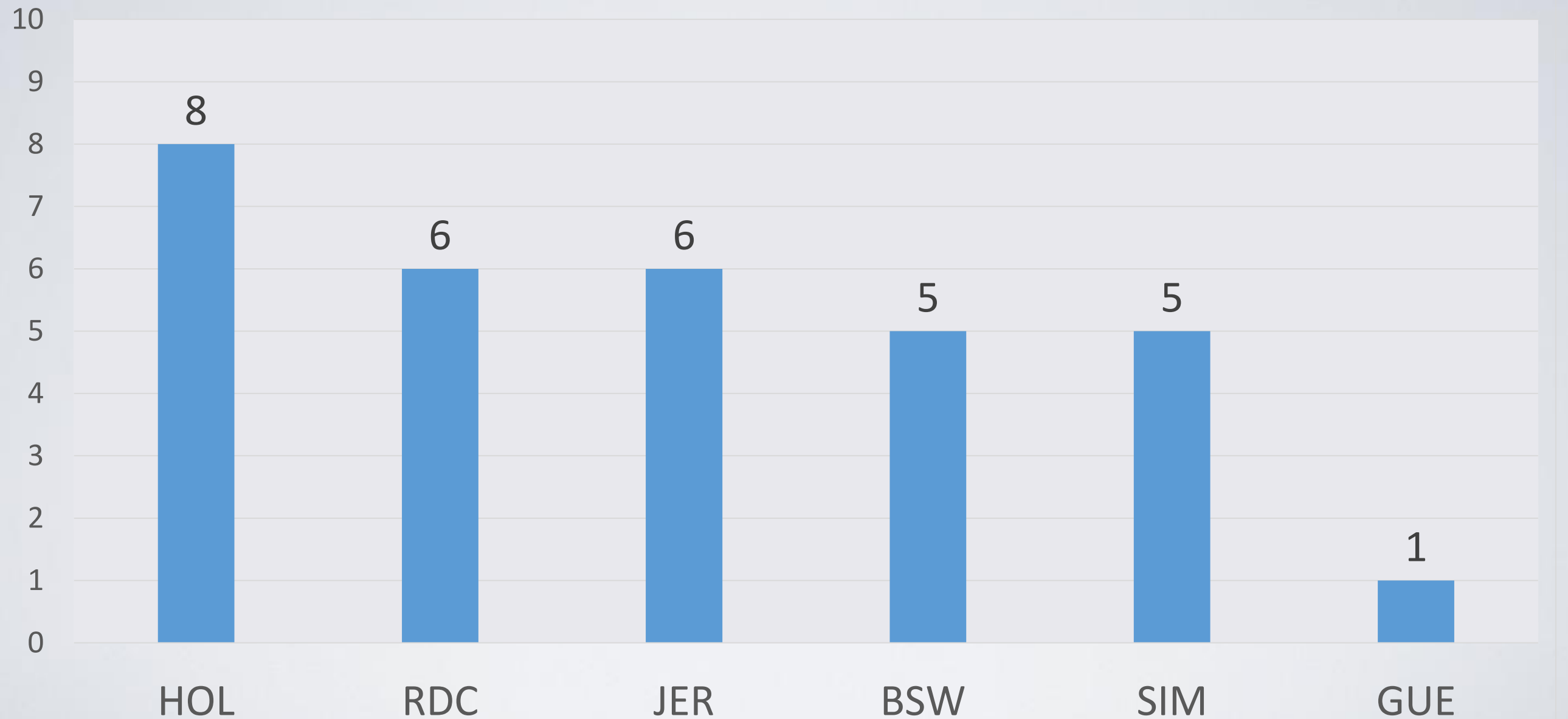
# Fertility Disorders

(Metritis, Retained Placenta, Displaced Abomasum)



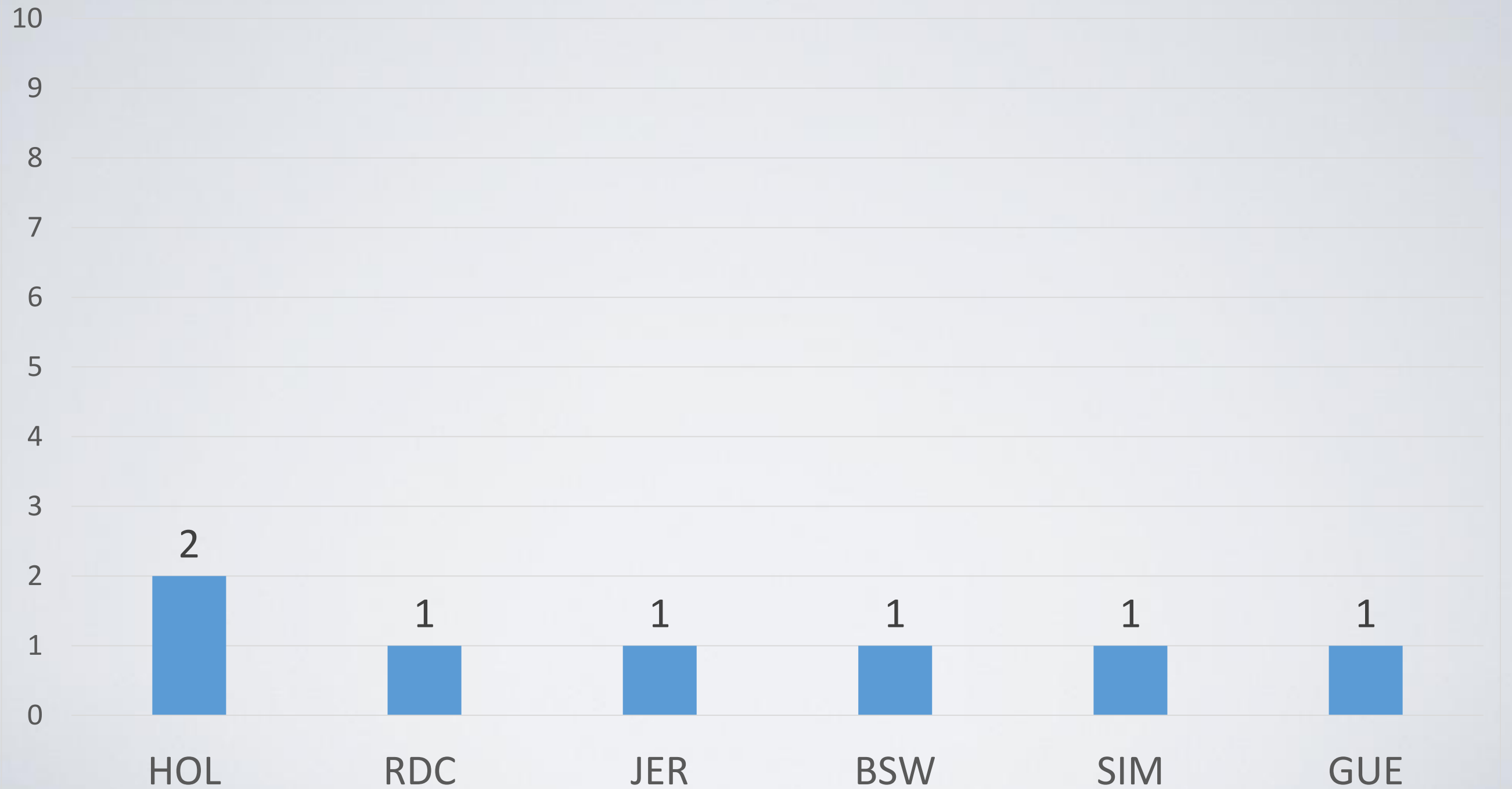


# Calf Survival



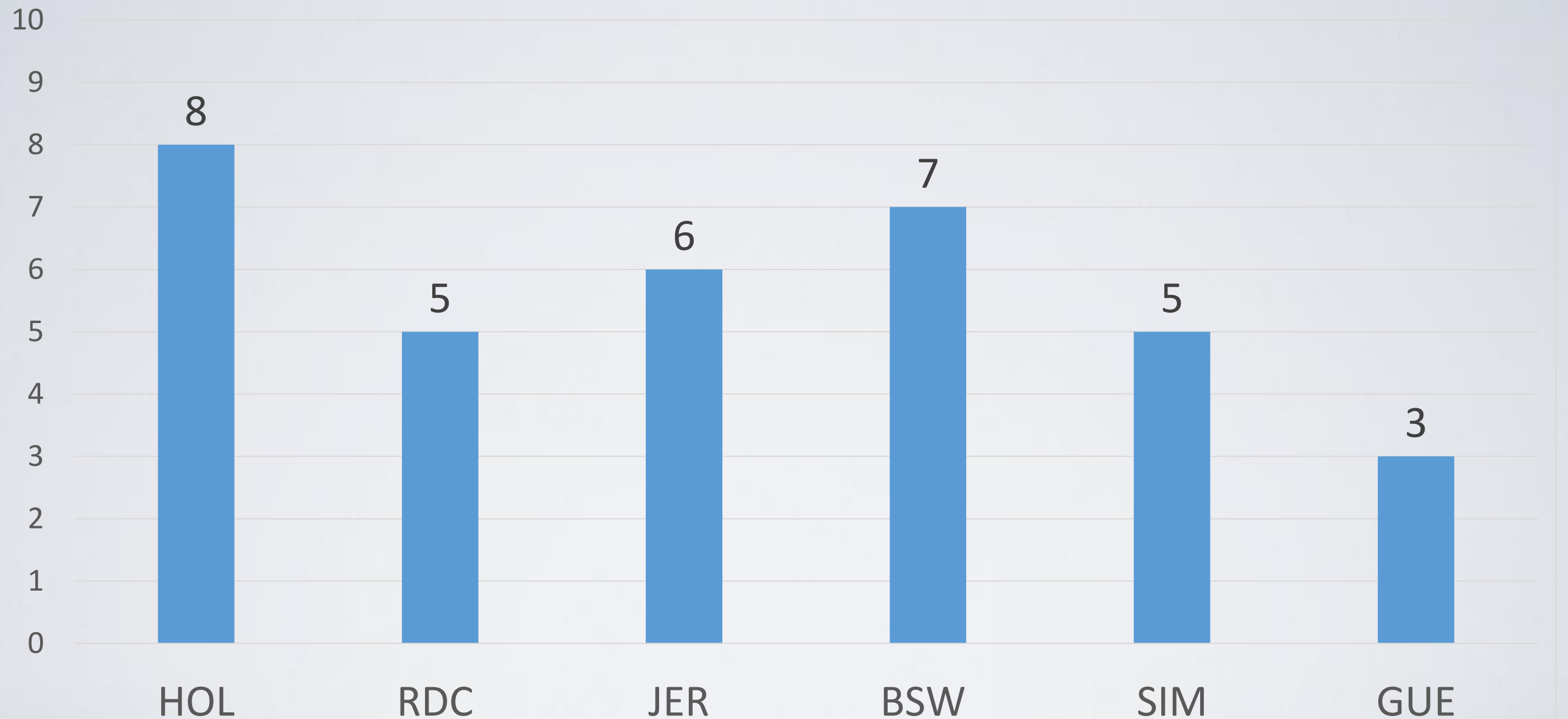


# Cow Liveability





# Persistency of Lactation

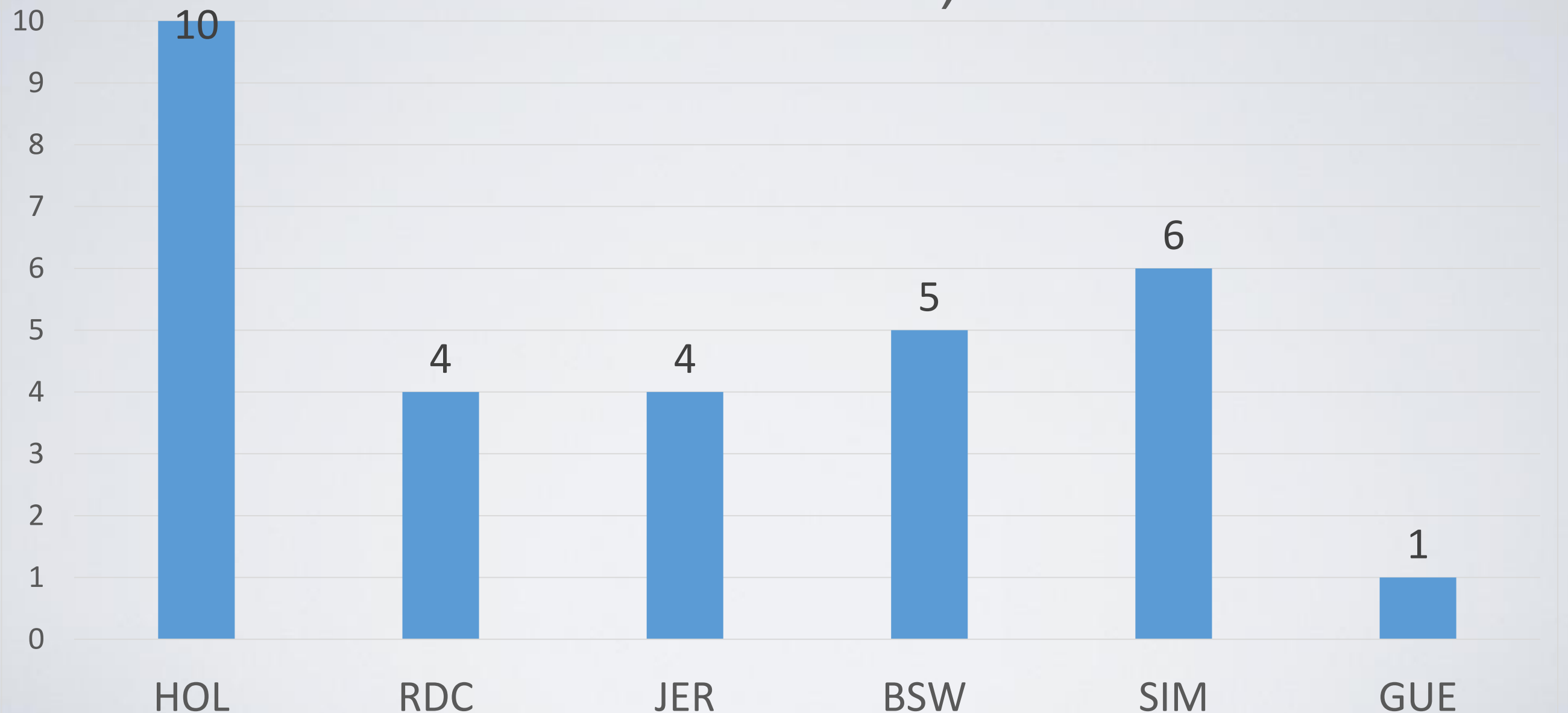






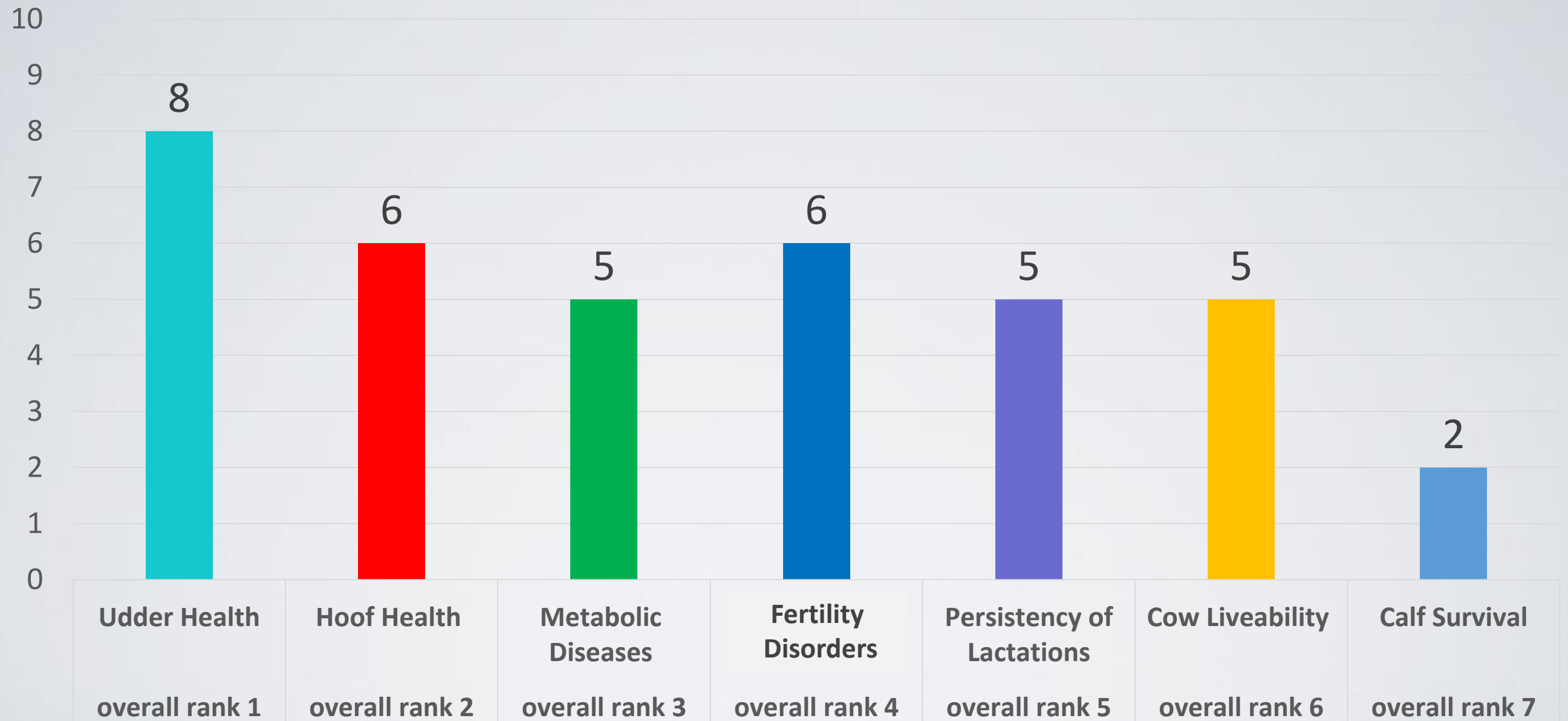
# Udder Health

(Early Lactation Mastitis, Combined Mastitis)





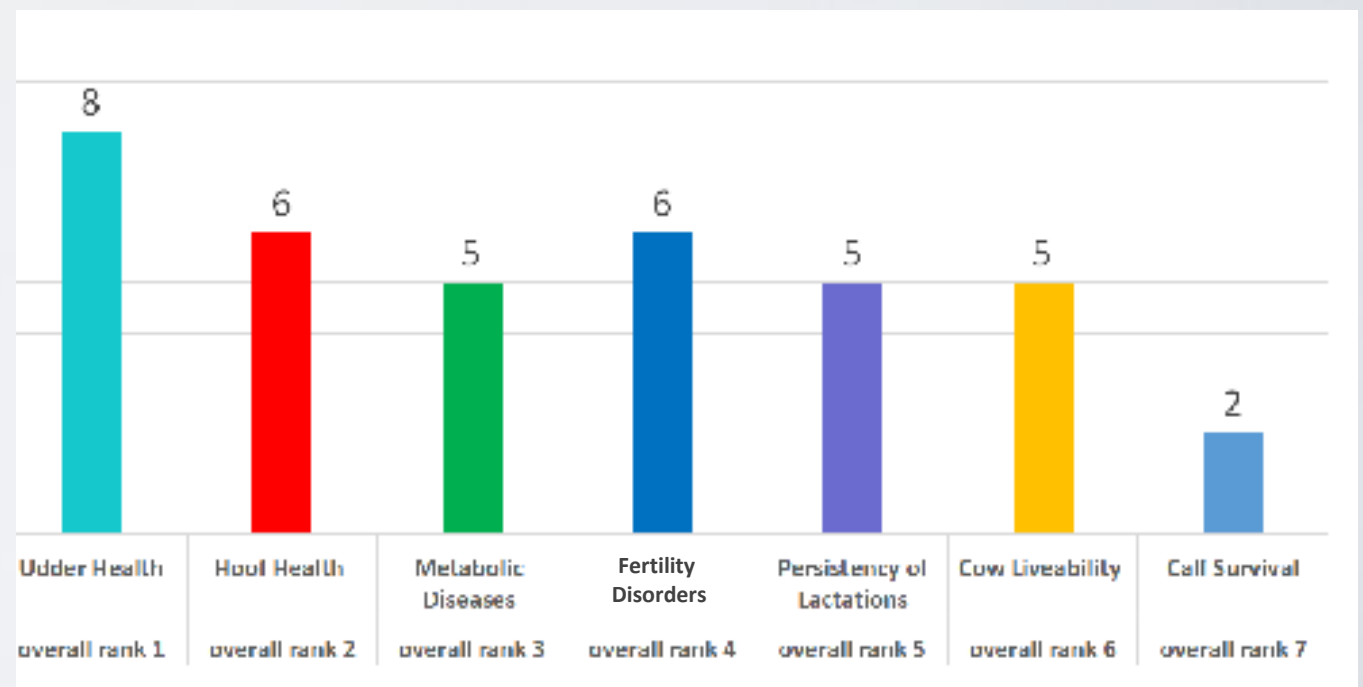
# Overall Trait-Priority Ranking





# Possible Expansion of MACE Portfolio

- Following ranking preferences and assess feasibility for:
  - Early Mastitis?
  - Hoof Health?
  - Metabolic Diseases?





- A Big Thank You to All taking part to the Surveys!!!





# 11c Business Model Considerations for SNPMACE and New Traits



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# 12 Future Events



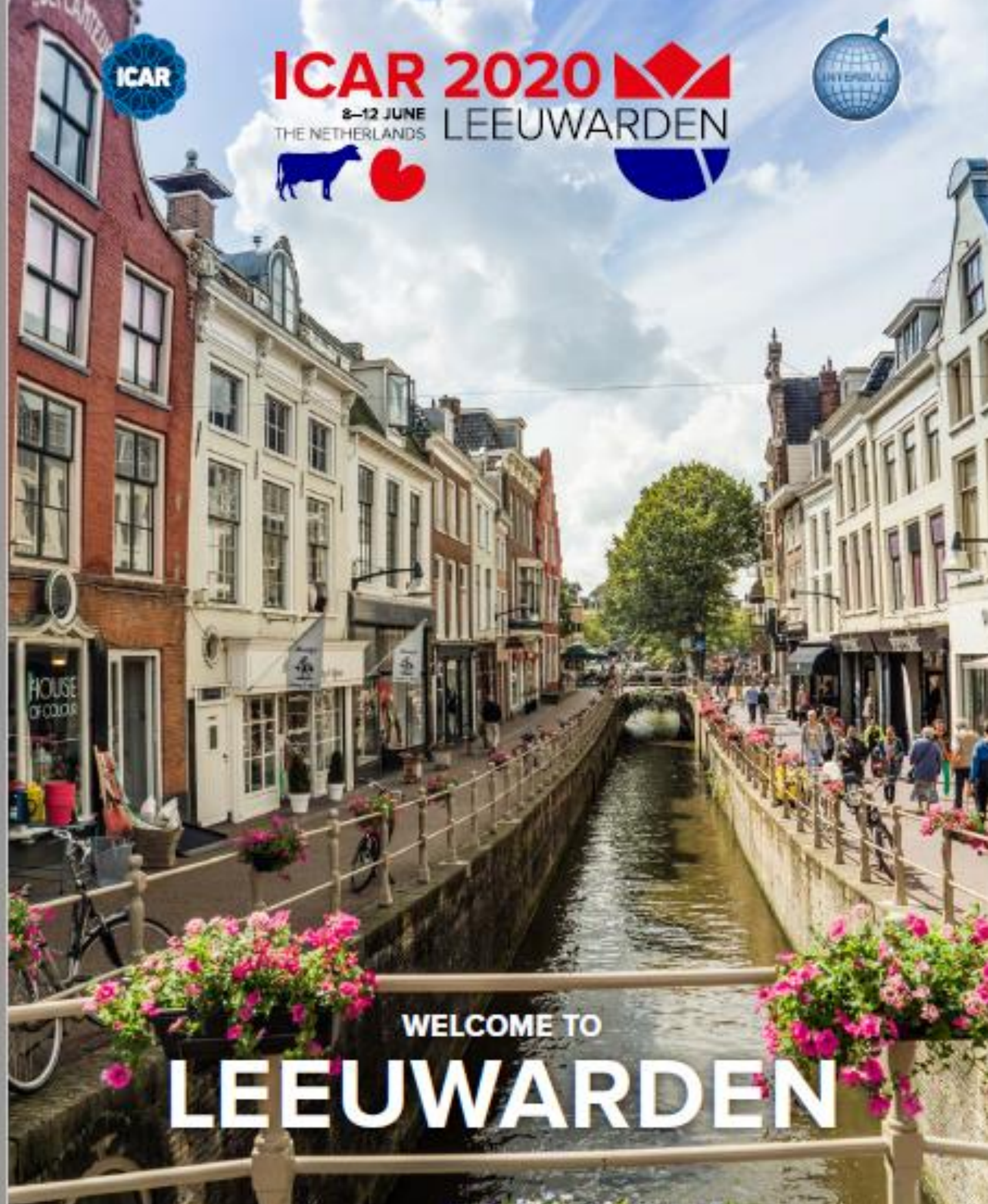
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**ICAR 2020**  
8-12 JUNE  
THE NETHERLANDS  
LEEWARDEN



WELCOME TO  
**LEEWARDEN**



# ICAR/Interbull2020 Leeuwarden

## Program Outline

Interbull: Sat 6 June: ITC Meeting 1

Sun 7 June: Steering Committee Meeting 1

Mon/Tue 8-9 June: Business & Open Meetings  
ITC and SC Meeting 2

ICAR: Mon/Tue 8-9 June: Working groups

Wed-Fri 10-12 June: Open sessions  
Technical Tours





# ICAR/Interbull2020 Leeuwarden

**Dates: 8-12 June 2020 in Leeuwarden, The Netherlands**

**THEME: Circular economy, impact and challenges in animal performance recording**

- Sessions:
  - Supporting circular economy: practical herd applications
  - Impact on breeding goals and traits (jointly with Interbull)
- Additional sessions on:
  - Blockchain: the answer for your data security and data exchange
  - Data analytics
  - Data governance



# Leeuwarden promo video

..\promofilm\CRV v17 hr (1).mp4





# 2021 Interbull Meeting, Davos, Switzerland

## 28-30 August 2021

### Joint with EAAP

### EAAP: 30 August - 3 September 2021

[www.eaap2021.org](http://www.eaap2021.org)

## Davos, Switzerland



### Welcome

30TH OF AUGUST -  
3RD OF SEPTEMBER 2021  
DAVOS, SWITZERLAND

The Switzerland organizing  
team is delighted to invite you  
to the

72nd Annual Meeting  
of EAAP

The meeting takes place from  
30th of August to 3rd of  
September 2021 in Davos,  
Switzerland - the highest City of  
Europe and place of the World  
Economic Forum WEF.



### Program overview

- one week of  
powerful workshops
- commission sessions
- technical tours
- gala dinner

Program Detail (upcoming)



Hosting Interbull  
meeting





## 13 - Any Other Business



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# Barriers to genetic improvement

- Survey carried out by ICBF (Ireland):
- ***"Potential barriers to genetic improvement in livestock and how we can help overcome these"***
- ***Will be sent to members of:***
- (i) EFFAB pigs, poultry and fish, (ii) Interbeef, (iii) ICAR sheep sub-group and (iv) Interbull.
- ***Participants will receive report in due course.***



# What's next?

## **Duke Energy Convention Centre (DECC)**

### **Today**

- ADSA Opening Session
  - 18:00-18:45 DECC Grand Ballroom A
- ADSA Opening Reception
  - 18:45-20:15 DECC Grand Ballroom B



# What's next?

## **Duke Energy Convention Centre (DECC)**

### **Tomorrow**

- Joint Interbull/ADSA Symposium
  - DECC Grand Ballroom C
  - **9:30-12:30: Ten years of Genomic Selection**
  - **14:00-17:30: Data pipelines for implementation of Genomic Evaluation of Novel Traits.**





# What's next?

**Duke Energy Convention Centre (DECC)**

**Tomorrow Evening from 19:00-21:30**

- Awards Program and Ceremony
- Ice Cream Social



# **Thank you to the following sponsors for their support of the Interbull Annual Meeting**

**Silver**



**COUNCIL ON DAIRY CATTLE BREEDING**

**Bronze**

