



# Health is the New Fertility

Siobhán Ring  
([sring@icbf.com](mailto:sring@icbf.com))



An Roinn Talmhaíochta,  
Bia agus Mara  
Department of Agriculture,  
Food and the Marine



AgTech - it's in our DNA

# Motivation

## 'A vet won't sign off a prescription for 100 tubes for 100 cows anymore'



Contributor  
October 3, 2019 9:35 am

**FARMERS JOURNAL**  
BEEF DAIRY SHEEP AGRIBUSINESS MACHINERY TILLAGE PEDIGREE BUILDINGS PROPER

### TB at highest level since testing began

Analysis of data going back over 60 years indicates disease rates are the highest they have ever been



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## Animals on 16 farms 100% resistant to Ivermectin - study

Anthelmintic resistance is where worms in an animal survive a dose of wormer which would normally kill them.

### 'Antimicrobial resistance is putting human and animal health in danger'

*Conor Finnerty*  
February 27, 2017 3:45 pm

Resistance to levamisole and m...

### Hungry and confused: The winding road to conscious eating

October 6, 2022 | Article

# The Ideal Dairy Cow

- Produces large quantity of quality product
- Good reproductive efficiency
- Good Longevity
- Consumes a small quantity of food
- Easy to manage
- Good conformation
- Low environmental footprint
- Resilient to external perturbations
- Healthy

Berry, 2014

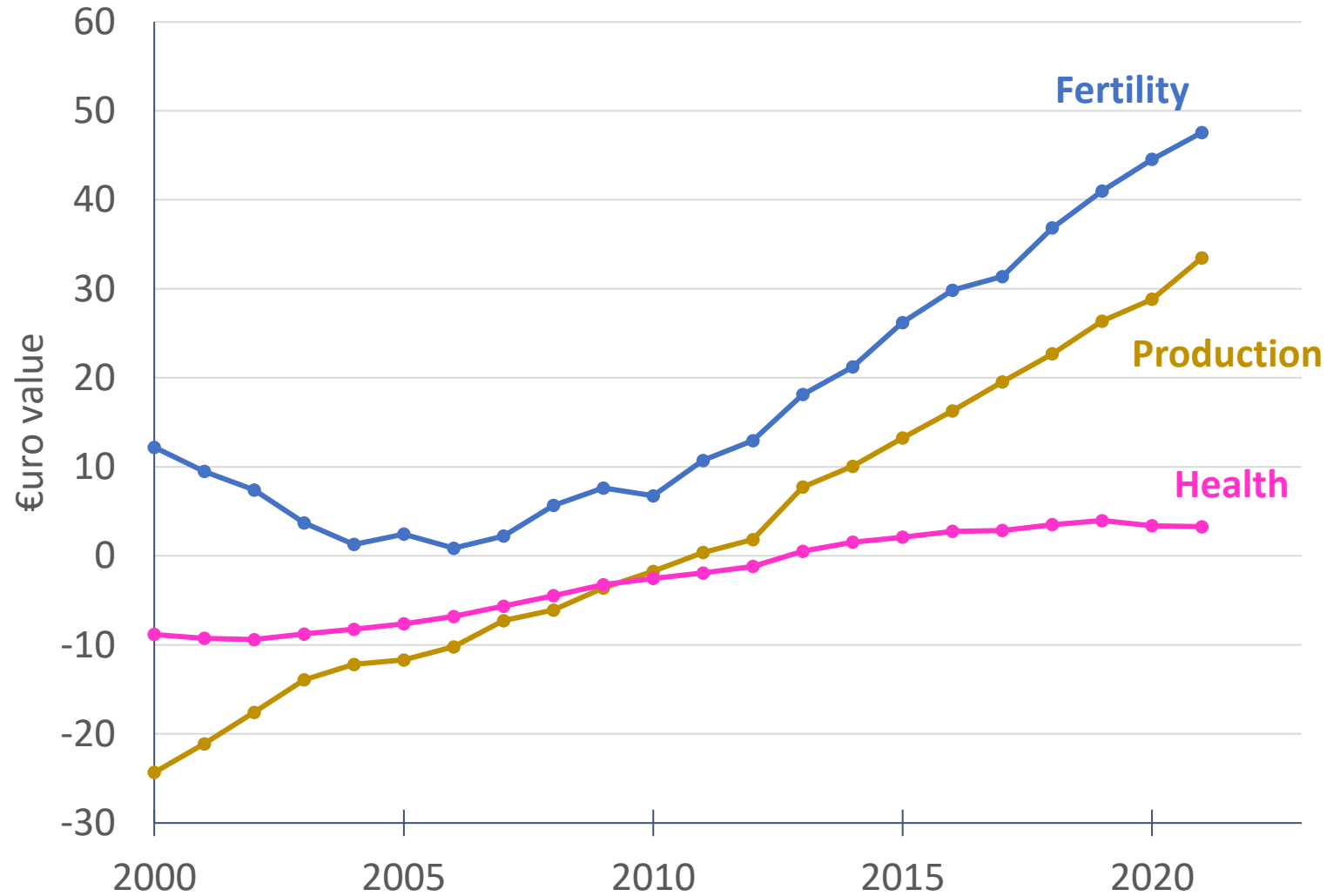
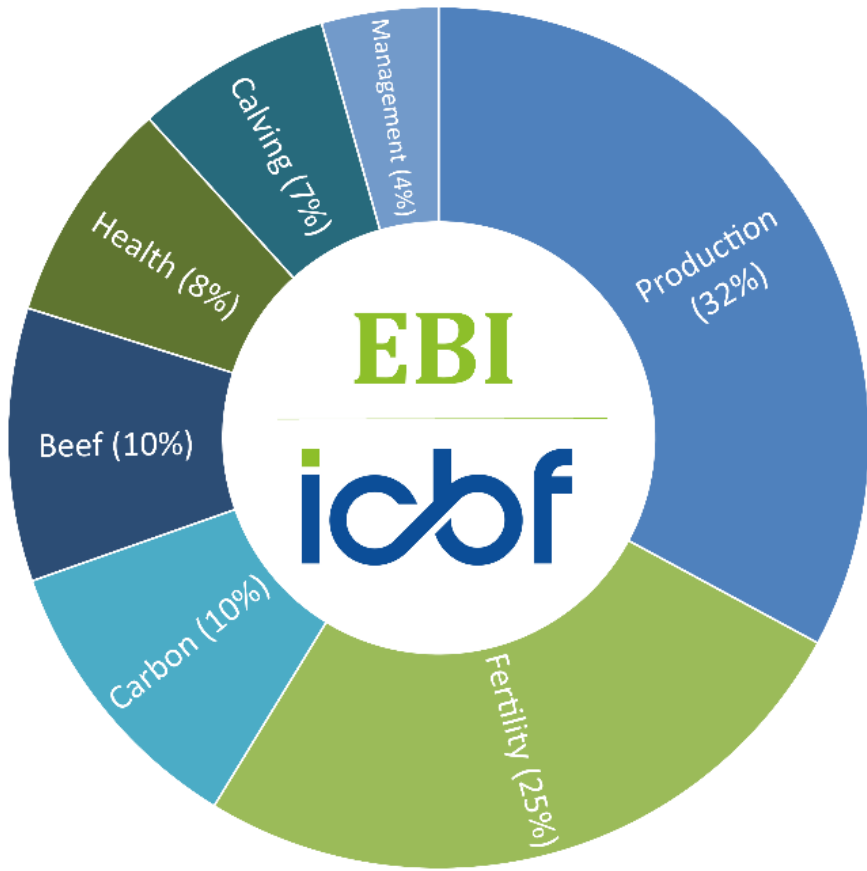


Health limiting

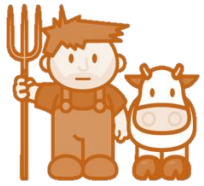
..potential wasted

Is it me?

# The Irish Breeding Goal



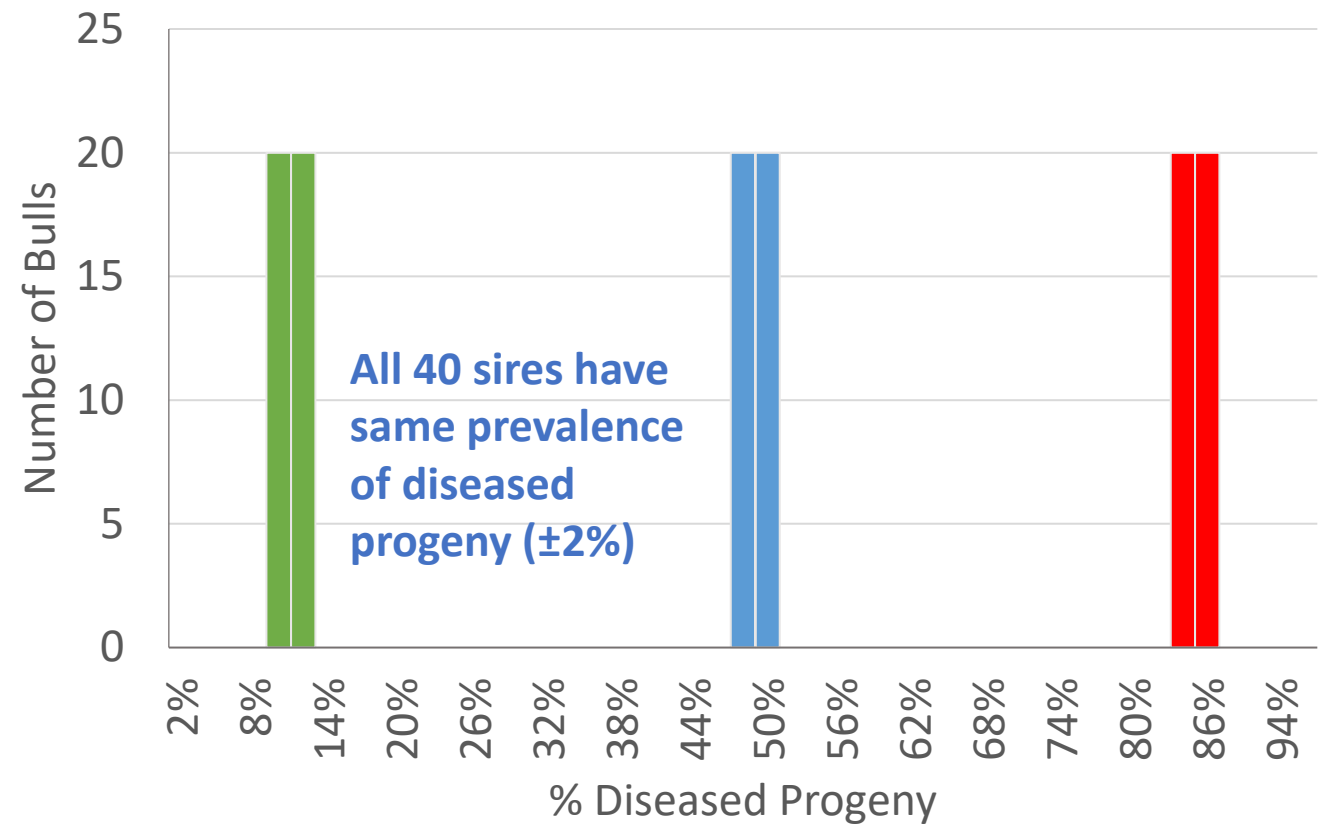
# Disease Due to Chance?



Environment

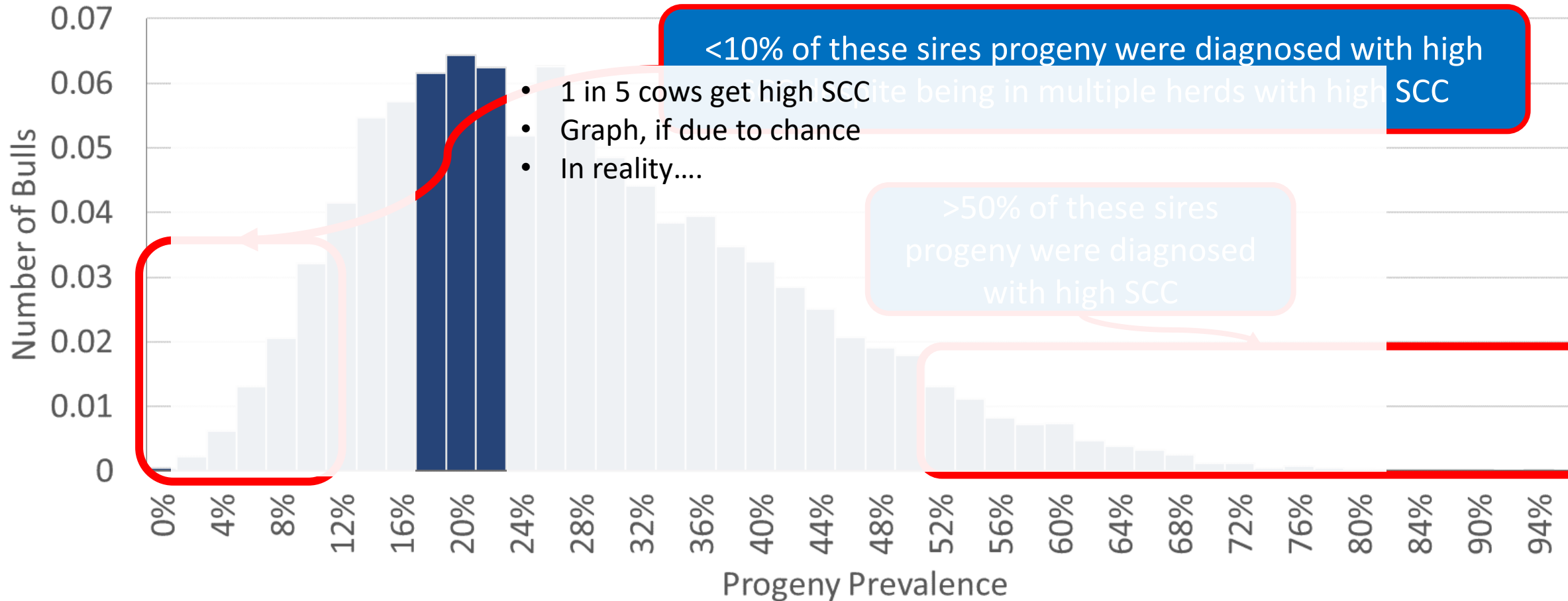


If Disease Due to Chance

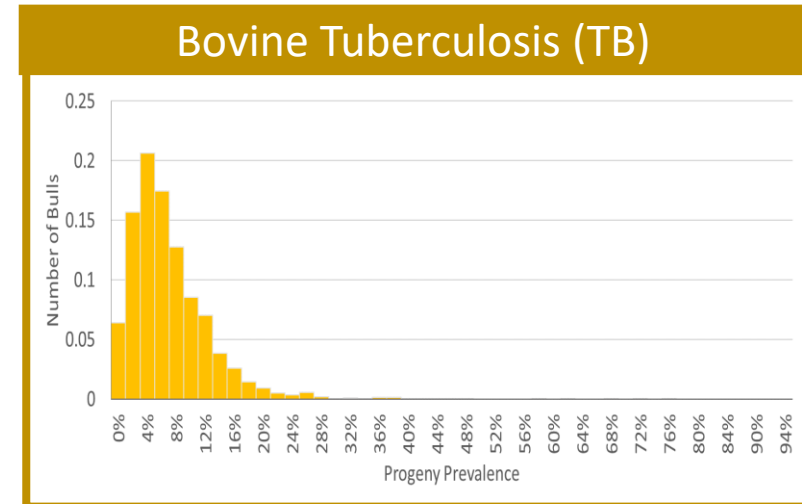
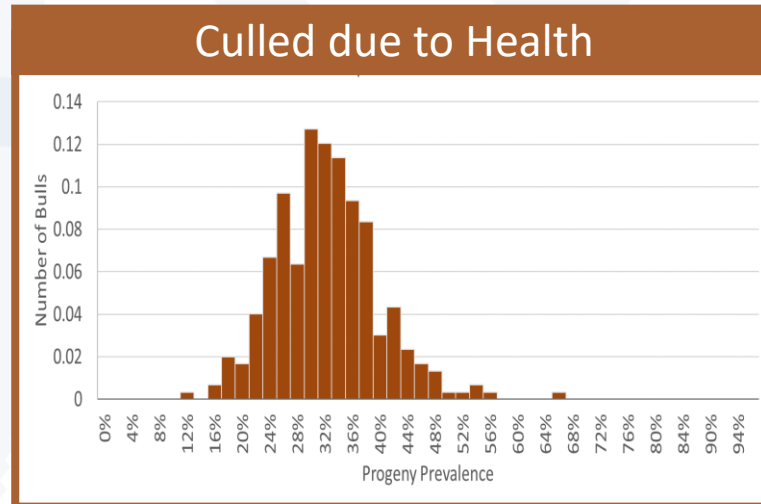
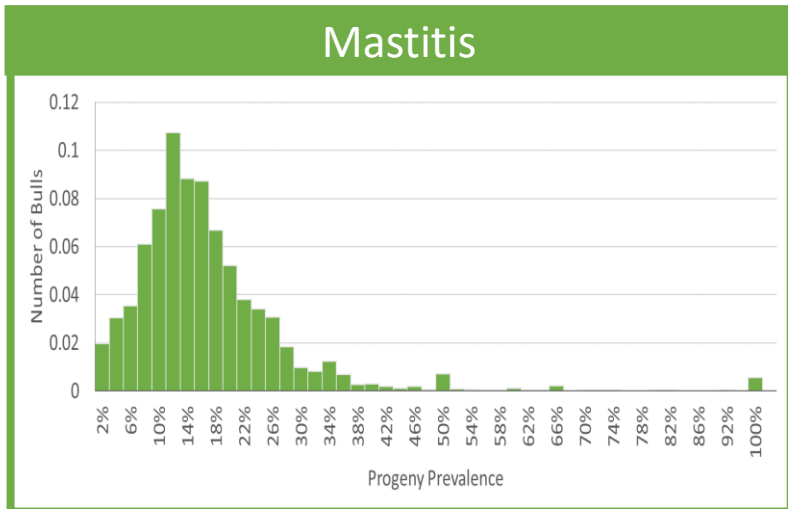
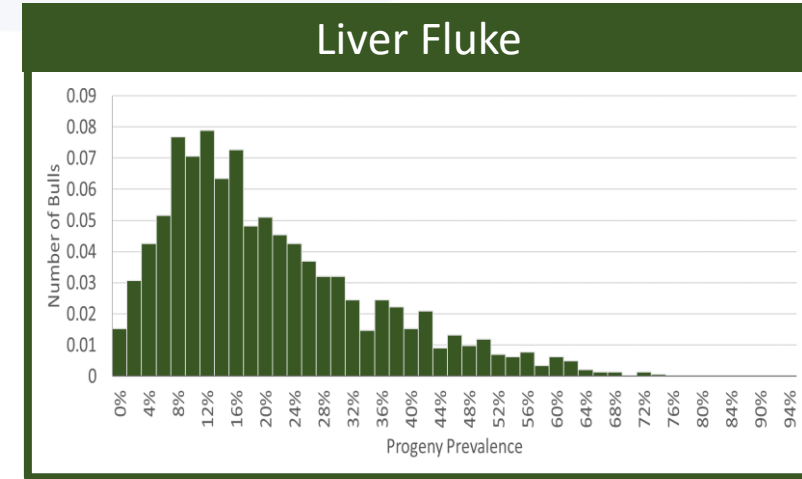
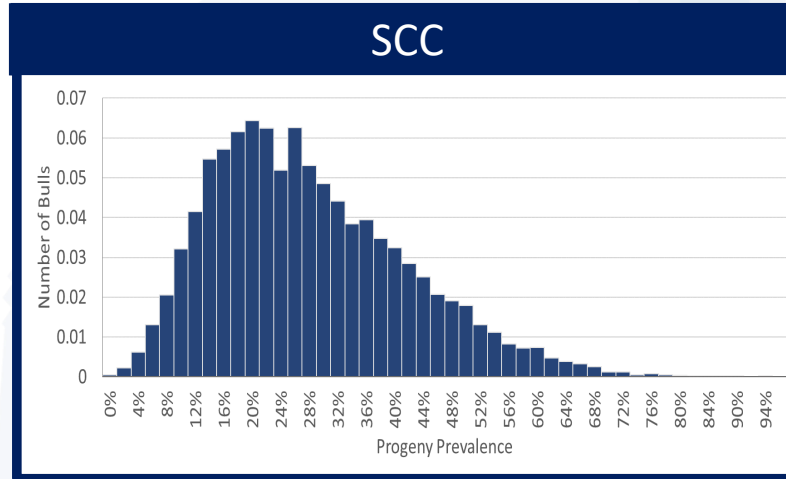
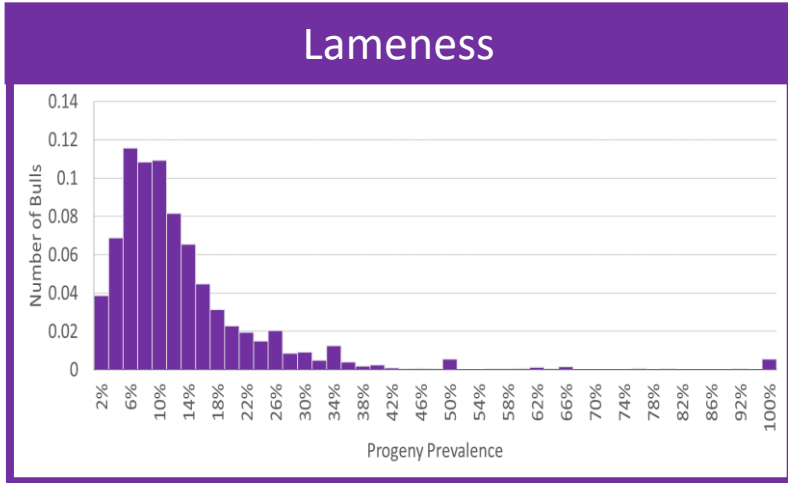


# Health Is Under Genetic Control

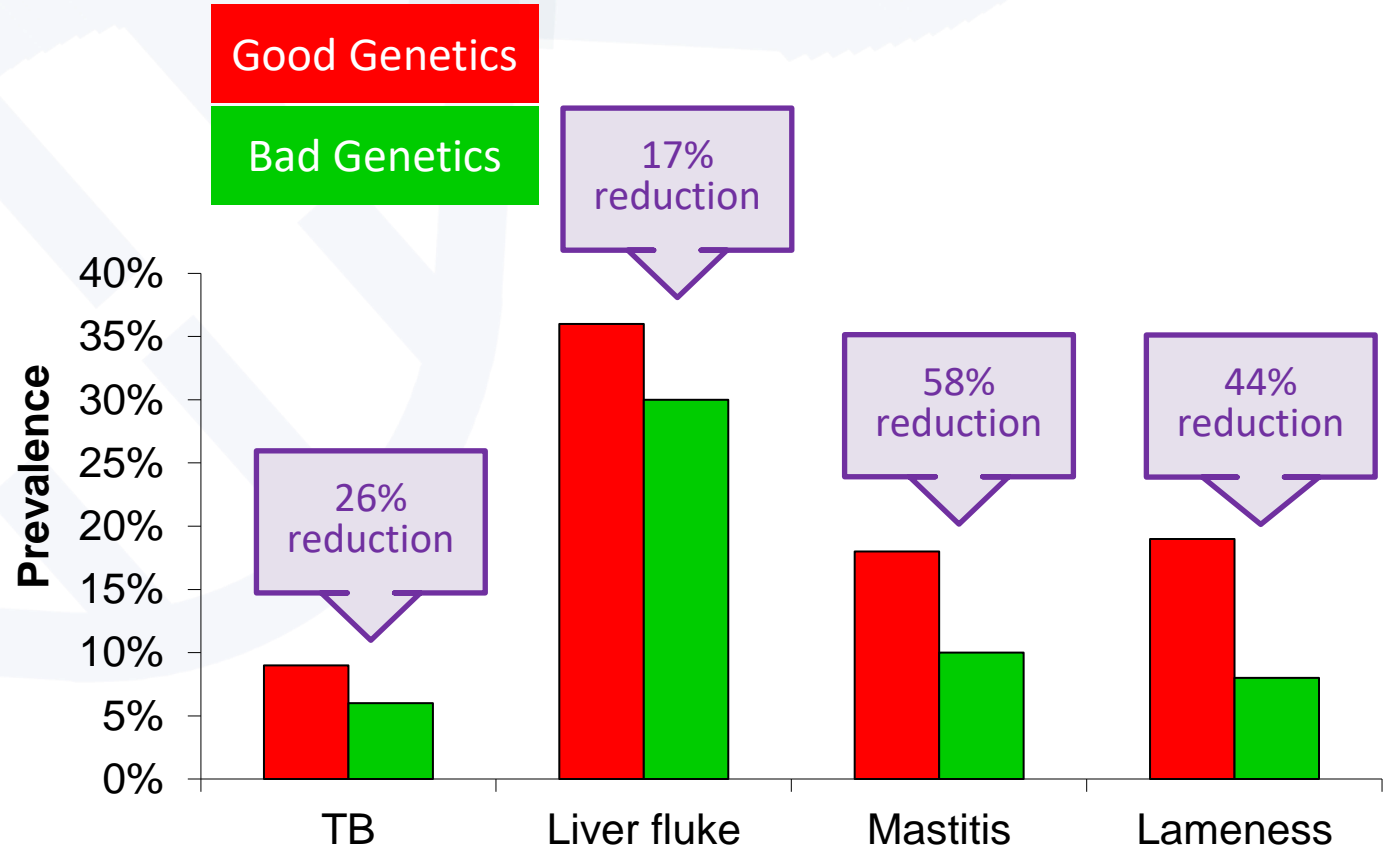
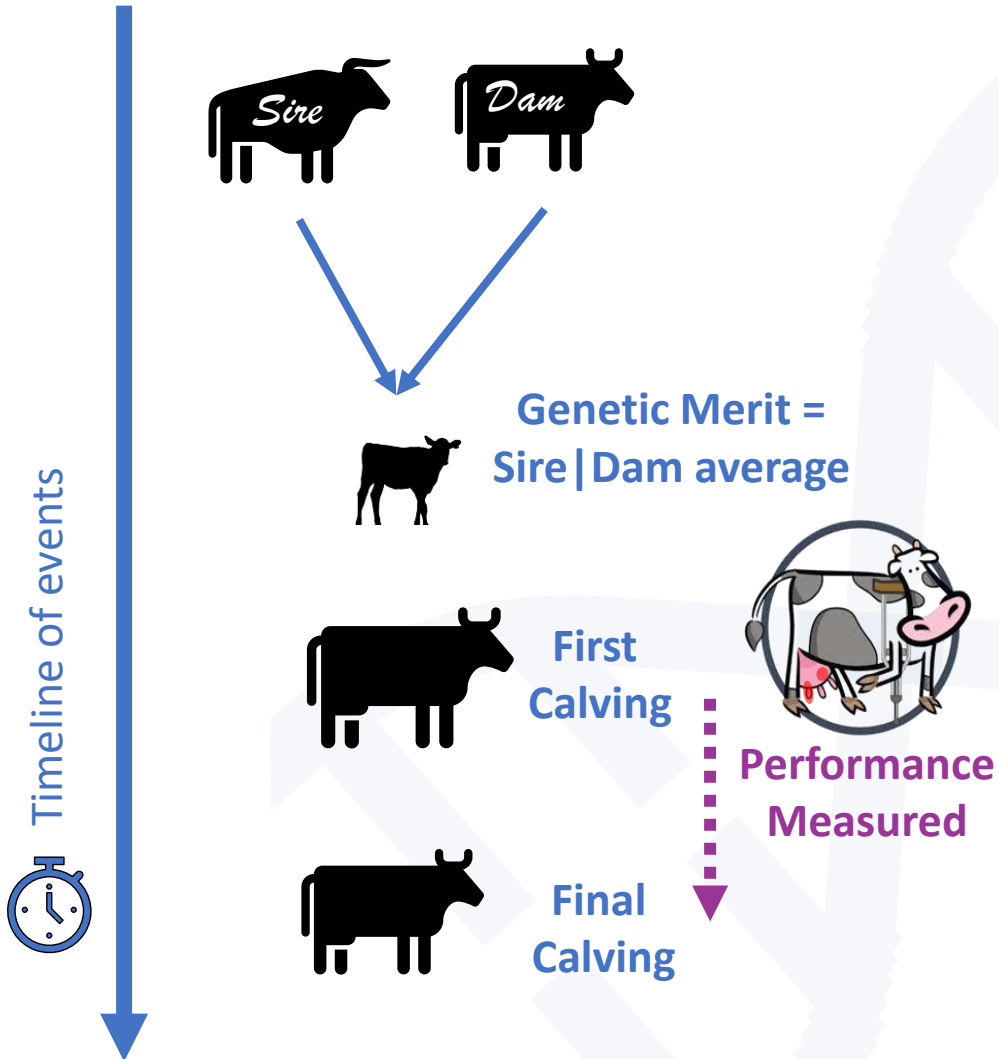
## SCC



# Health Is Under Genetic Control

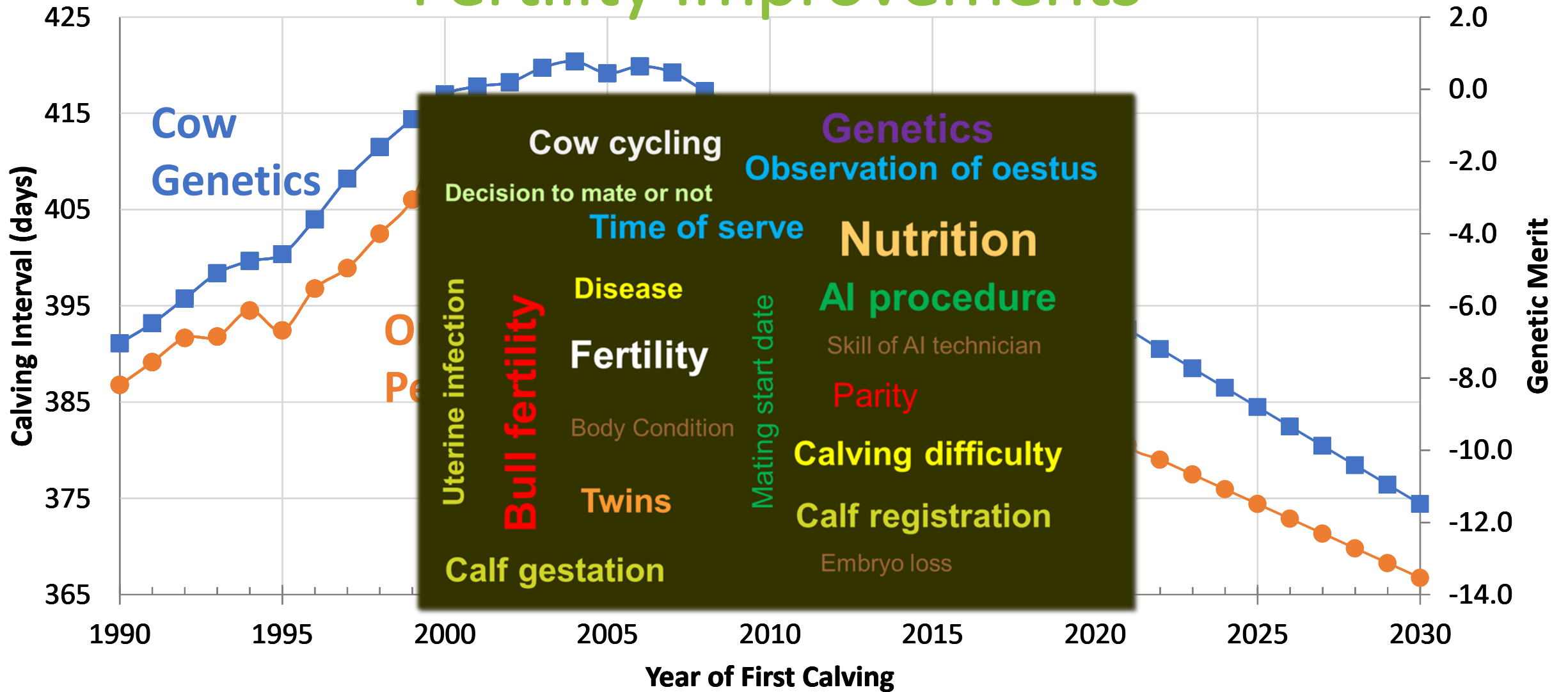


# Genetics Can Differentiate Good from Bad

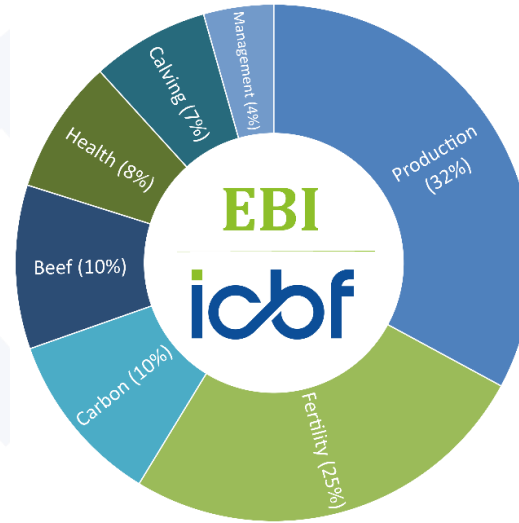
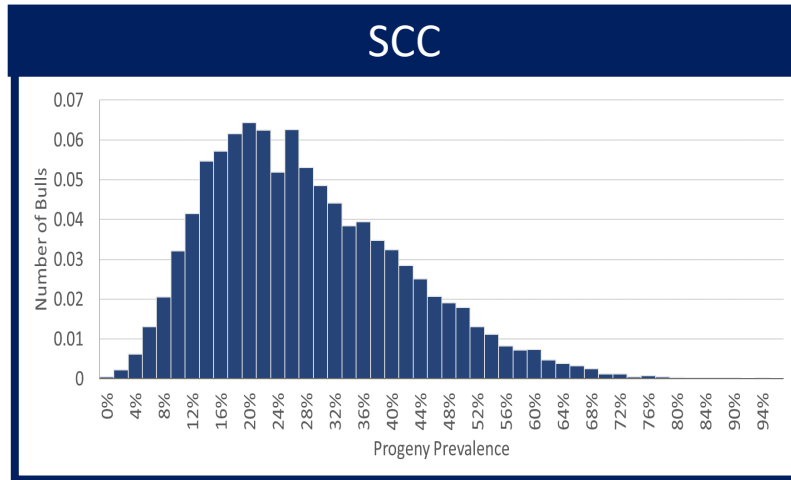




# Fertility Improvements

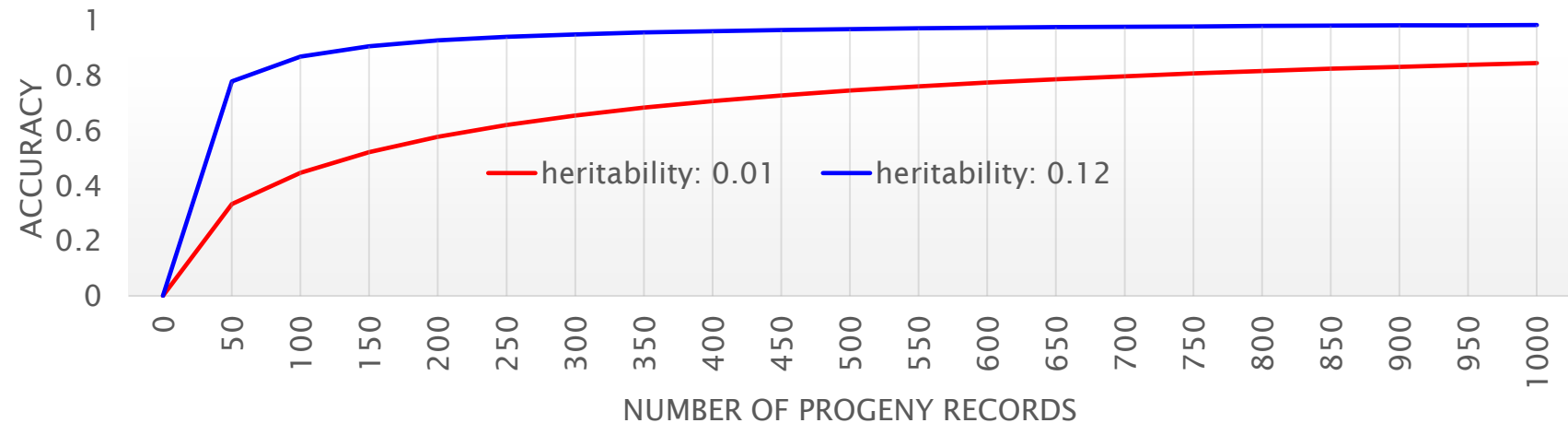


# Why Smaller Gains in Health

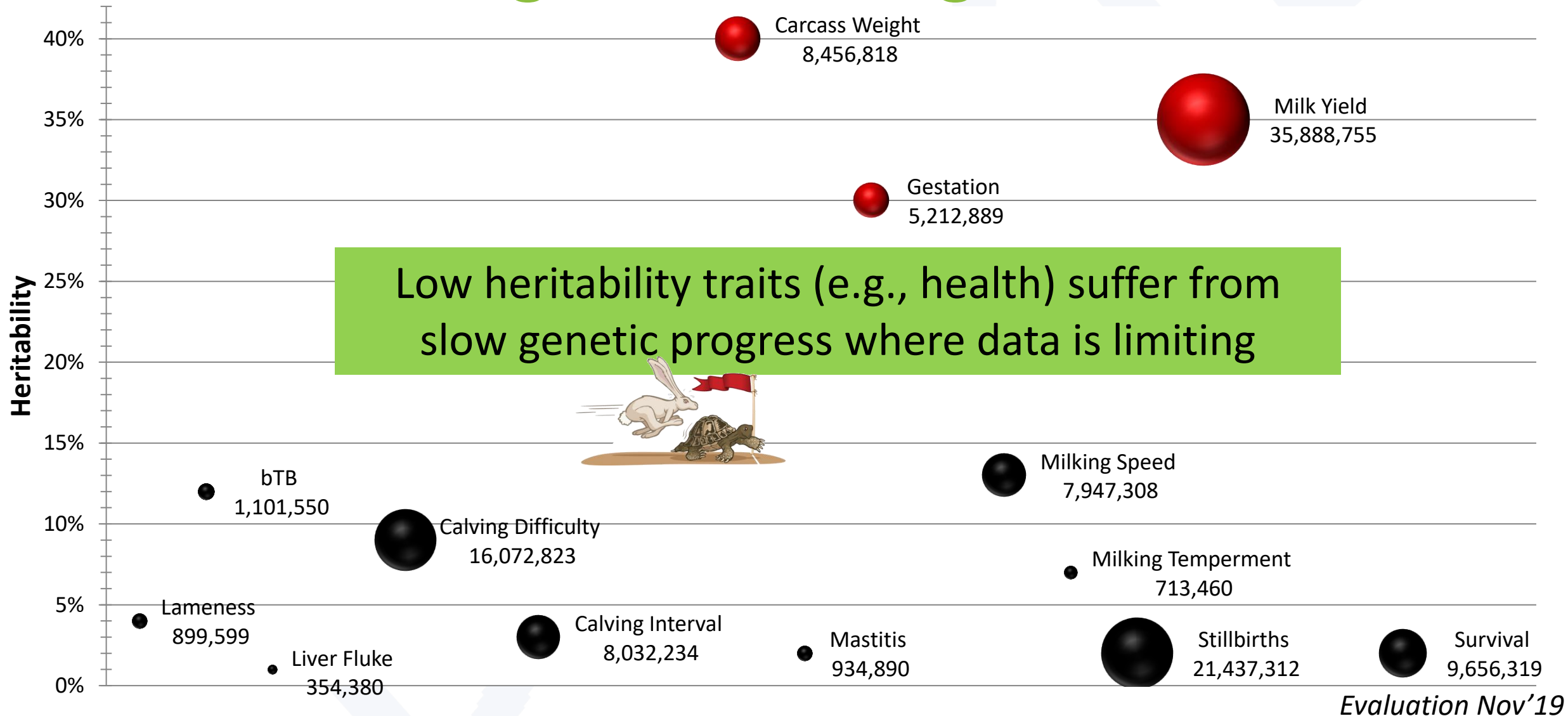


Rate of gain determine

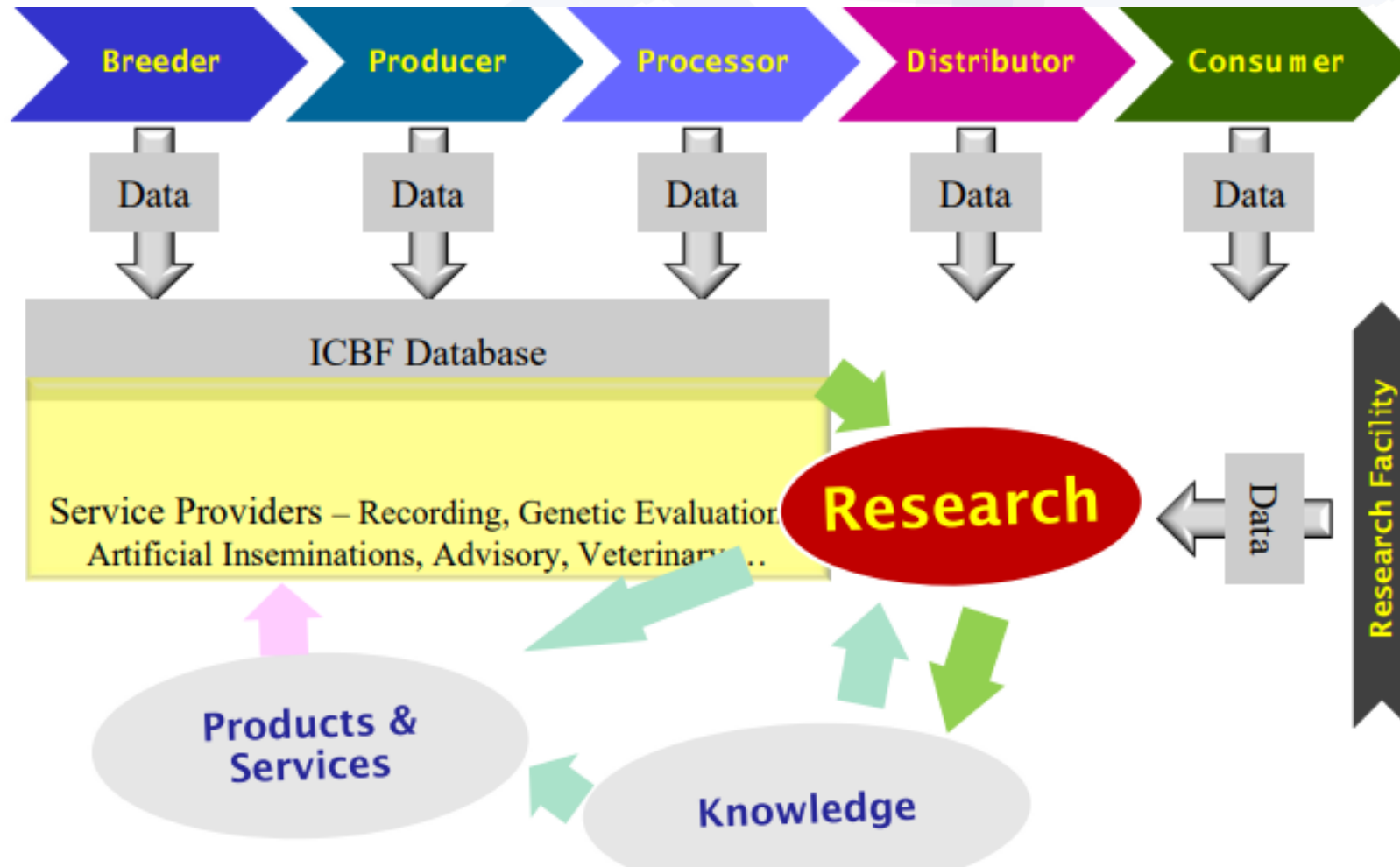
1. Variance
2. Selection intensity
3. Accuracy: data



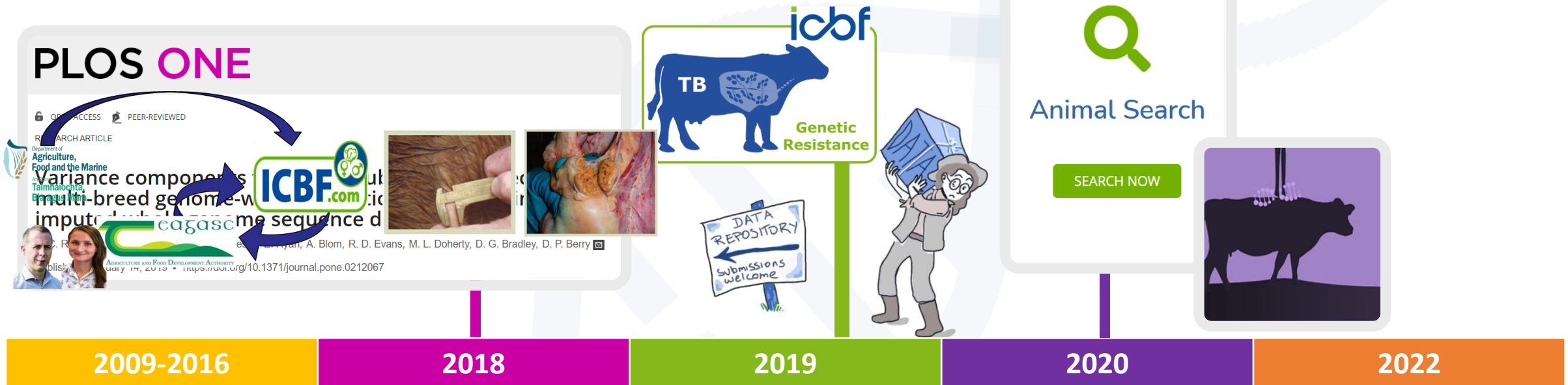
# Data Limiting Genetic Progress in Health



# Research, Innovation & Service Development

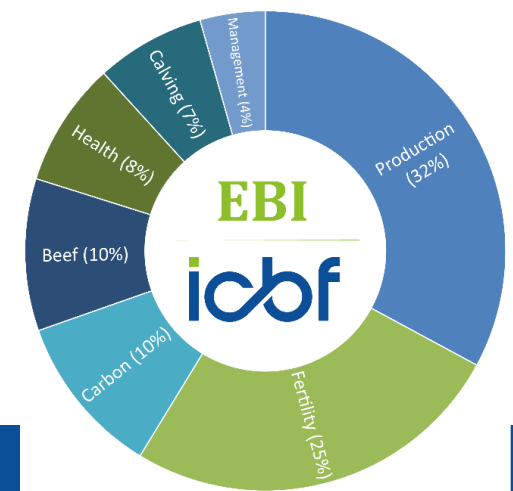
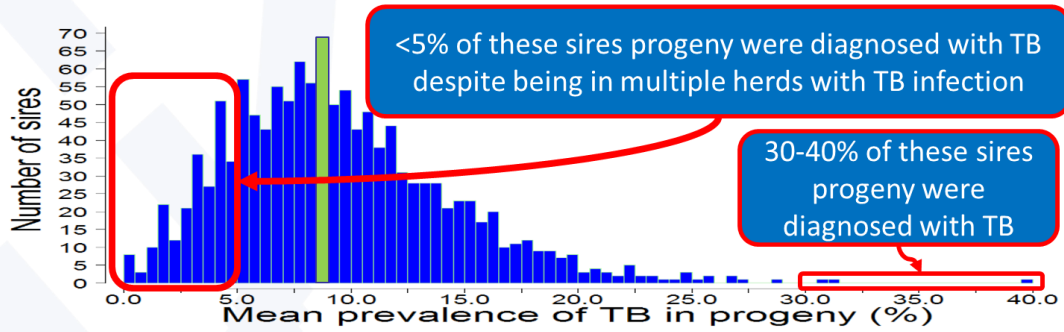


# Timeline of Events



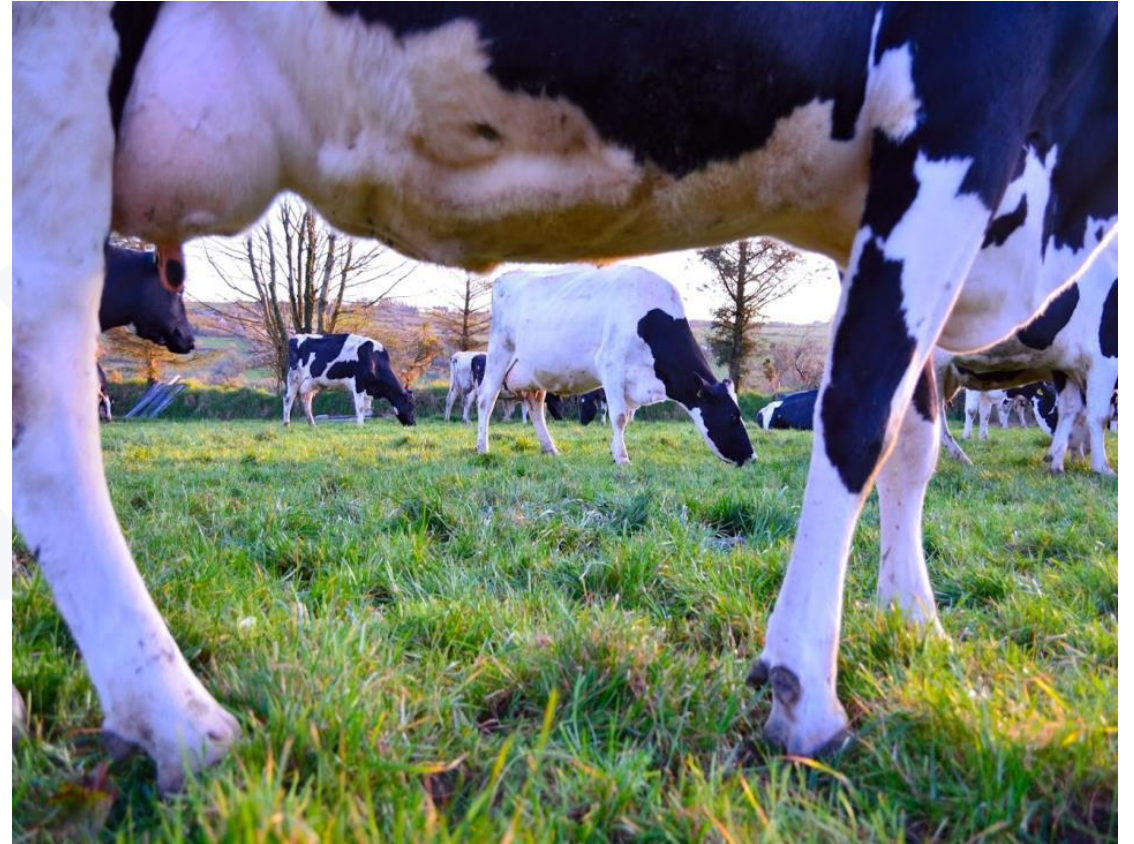
- Ample genetic variation in Irish cattle for susceptibility to bTB infection

Prevalence of TB among progeny of sires with  $\geq 50$  progeny in  $\geq 10$  herd-breakdowns



# Health Data Available

- Ketosis
- Milk Fever
- Johnes
- IBR
- BVD
- Nesopora
- Detailed hoof health measurements
- Bloat
- LDA
- Retained Placenta
- Pneumonia
- Calf vigor



# What You Can Do

- Use Best Genetics for Health
- Record Data
- Tell us how we can help you record the data
- What should we be recording

Scorecard (Mar 2023)	My Herd	National Average	Top 10%	Herd % Rank	Star Rating
<b>Herd EBI</b>	€211	€164	€200	96%	★★★★★
Milk	€67	€46	€63	95%	★★★★★
Fertility	€99	€68	€85	97%	★★★★★
Carbon	€2	€7	€14	18%	★☆☆☆☆
Calving	€35	€29	€37	81%	★★★★★
Beef	€-5	€-3	€4	32%	★★☆☆☆
<b>Maintenance</b>	€7	€13	€20	7%	★☆☆☆☆
Management	€2	€1	€3	82%	★★★★★
<b>Health</b>	€4	€6	€9	20%	★☆☆☆☆

**HerdPlus**  
Profit through Science  
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**Economic Breeding Index (EBI)  
Herd Summary - Nov 2019**



## 1. EBI Herd Summary

Average EBI for all dairy cows with; (i) a known sire (or milk recorded progeny with a known sire) and (ii) are currently on your farm.

\* Number of animals that are missing an EBI result

Animal Group	Num of Cows	Milk Kg Fat Prot	% %	Surv% CI Days	Milk % Cont	Fertility % Cont	Calv % Cont	Beef % Cont	Maint % Cont	Mgmt % Cont	Health % Cont	EBI €
<b>Cows with EBI</b>	97	94			€ 43	€ 52	€ 36	€ -7	€ 4	€ 2	€ 2	€ 133
Missing EBI*	0	7.2	0.06	1.5	29.5%	35.8%	24.6%	-4.5%	2.4%	1.5%	1.7%	
Total Cows	97	6.2	0.05	-2.7								
<b>1st Lactation</b>	23	132			€ 54	€ 54	€ 42	€ -8	€ 3	€ 2	€ 2	€ 148
		8.4	0.06	1.5	32.7%	33%	25.2%	-4.9%	1.6%	1.3%	1.2%	
		8.2	0.06	-2.8								
<b>2nd Lactation</b>	24	103			€ 48	€ 51	€ 38	€ -8	€ 4	€ 3	€ 2	€ 137
		8.1	0.07	1.5	31.6%	33.1%	24.5%	-5.2%	2.5%	1.8%	1.3%	
		7.0	0.06	-2.6								
<b>3rd Lactation</b>	12	119			€ 56	€ 42	€ 41	€ -6	€ 3	€ 3	€ 3	€ 140
		11.3	0.11	1.6	36.7%	27.3%	26.8%	-3.9%	1.8%	1.7%	1.8%	
		7.3	0.06	-1.7								
<b>4th Lactation</b>	12	73			€ 38	€ 35	€ 28	€ -6	€ 6	€ 1	€ 4	€ 107
		6.9	0.07	1.3	32%	29.8%	23.9%	-4.9%	4.9%	1%	3.4%	
		5.1	0.04	-1.5								
<b>5th Lactation (+)</b>	26	49			€ 25	€ 64	€ 31	€ -5	€ 3	€ 2	€ 3	€ 123
		3.7	0.03	1.5	18.9%	48.6%	23.2%	-3.4%	2.4%	1.5%	2%	
		3.7	0.03	-3.6								

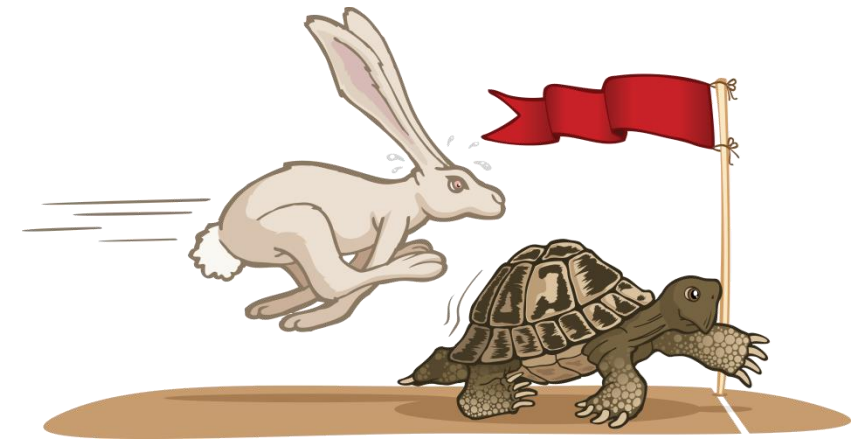
## 2. Dairy Youngstock

<b>2019 Calves</b>	30	75			€ 68	€ 87	€ 44	€ -10	€ 2	€ 4	€ 1	€ 196
Missing EBI*	0	10.0	0.12	2.4	31.4%	40.4%	20.3%	-4.7%	0.9%	1.9%	0.4%	
Total Calves	30	9.1	0.12	-4.6								
<b>2018 Calves</b>	28	122			€ 63	€ 64	€ 42	€ -8	€ 6	€ 3	€ 4	€ 173
Missing EBI*	0	9.8	0.08	2.0	33.2%	33.6%	22.2%	-4.2%	2.9%	1.6%	2.2%	
Total Calves	28	9.1	0.08	-3.1								

# Summary

- Fertility solved!
- Healthy animal – necessity
- Health is under genetic control
- Gains will be limited without adequate data

**Genetics is cumulative  
and permanent**





# Our Farmer & Government Representation



An Roinn Talmhaíochta,  
Bia agus Mara  
Department of Agriculture,  
Food and the Marine



# Our AI & Milk Recording Organisations



# Our Herdbooks



# Acknowledging Our Members