

Bull team selection

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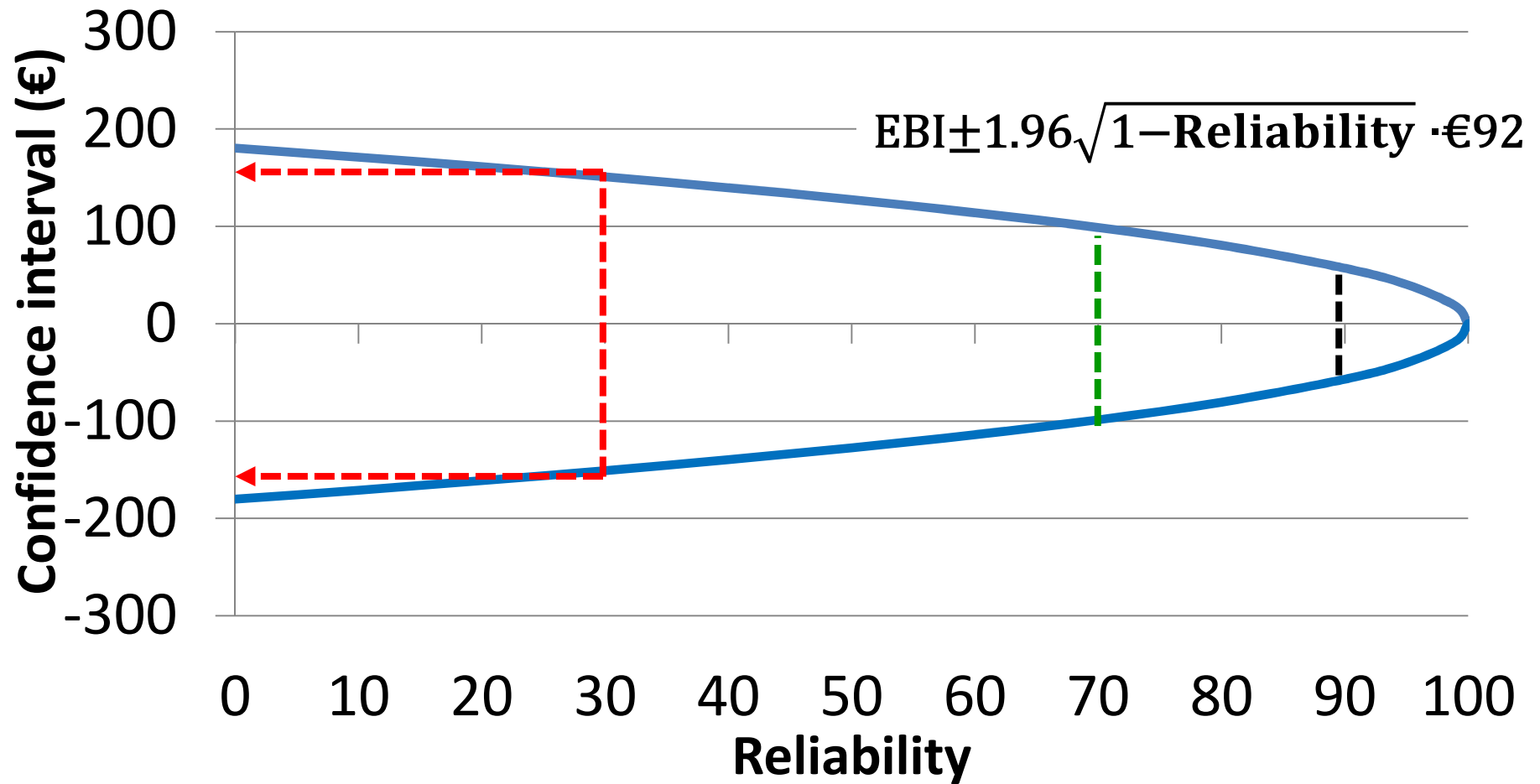


The Irish Agriculture and Food Development Authority

What is reliability?

- Each animal receives an EBI with a reliability figure
 - Same for the subindexes and component traits
- Reliability = how confident are ICBF that the published value reflects the true value of the animal
 - Measure of likelihood of the extent of movement
 - Not whether or not it will move
 - Varies from 0% (really ~30%) to 99%

EBI confidence interval



Basis of bull teams (risk minimisation)

- 2 bulls – **UU** UD DU **DD** (25% U, 50% no change, 25% D)
 - “unlucky” – 1/4 times (25%)
- 3 bulls (2^3) – **UUU**, **DDD**, UUD, UDU, DUU, DDU, DUD, UDD
 - “Unlucky” – 1/8 times (12.5%)
- 4 bulls (2^4) – **UUUU**, **DDDD**, UUUD, UDUU, DUUU.....
 - “Unlucky” – 1/16 times (6.25%)
- **Difficult to improve in EBI if already well ahead**

**Assumes independence between tosses/bulls
(and equal “usage”)**

Bull teams

- Guidelines of min of 4 bulls per team were based on unrelated bulls equally used
- 5 bull team but 90% of cows in calf to just one of the bulls
 - Really just a one bull team
- 5 bull team of paternal half-sibs all from one genomically tested sire
 - If that sire drops in EBI, then all the bulls drop (and the inverse)
- **ICBF sire advice does all the underlying calculations to generate bull team reliability (and inbreeding checks)**

Team size by herd size

Herd size bracket	Average herd size	Min number of bulls
1-50	25	7
51-100	75	7
101-150	125	8
151-200	175	10
201-250	225	11
251-300	275	12
301-350	325	13
351-400	375	14

- Larger herds have “more skin in the game”
- Risk is proportional to the extent of the variability

Picking bulls

Report Date:

Herd Owner:

Herd No:

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 €
Cows with EBI	117	8		€ 51	€ 69	€ 40	€ -19	€ 20	€ 4	€ 5	€ 169
Missing EBI*	0	8.6 0.14	2.2	24.5%	33.2%	19.5%	-9.4%	9.4%	1.7%	2.4%	
Total Cows	117	5.8 0.09	-3.3								
1st Lactation	20	4		€ 54	€ 78	€ 47	€ -19	€ 18	€ 5	€ 5	€ 187
		9.7 0.17	2.3	24.1%	34.5%	20.8%	-8.4%	8.1%	2.1%	2%	
		5.9 0.1	-4.0								
2nd Lactation	18	147		€ 66	€ 59	€ 44	€ -18	€ 19	€ 3	€ 2	€ 175
		10.5 0.08	1.7	31.3%	28%	20.8%	-8.5%	8.8%	1.5%	1%	
		9.7 0.08	-3.0								
3rd Lactation	24	19		€ 60	€ 69	€ 38	€ -17	€ 17	€ 2	€ 5	€ 174
		9.4 0.15	2.2	28.8%	33.4%	18.1%	-8%	8%	1.2%	2.5%	
		7.1 0.11	-3.4								
4th Lactation	17	25		€ 43	€ 66	€ 42	€ -19	€ 17	€ 3	€ 6	€ 159
		7.0 0.10	2.1	22%	33.6%	21.5%	-9.6%	8.6%	1.6%	3.2%	
		5.3 0.07	-3.1								
5th Lactation (+)	38	-70		€ 40	€ 71	€ 37	€ -23	€ 24	€ 4	€ 6	€ 158
		7.4 0.17	2.4	19.7%	34.6%	17.9%	-11.2%	11.7%	1.9%	2.9%	
		3.1 0.09	-3.2								

2. Dairy Youngstock

2020 Calves	46	50		€ 71	€ 102	€ 47	€ -15	€ 14	€ 5	€ 5	€ 228
Missing EBI*	1	12.3 0.18	3.0	27.5%	39.4%	18.1%	-5.7%	5.4%	1.8%	2.1%	
Total Calves	47	8.5 0.12	-5.1								
2019 Calves	30	44		€ 73	€ 77	€ 44	€ -15	€ 17	€ 5	€ 2	€ 203
Missing EBI*	1	11.9 0.18	2.5	31.1%	32.9%	19%	-6.5%	7.5%	2%	1%	
Total Calves	31	8.8 0.13	-3.6								

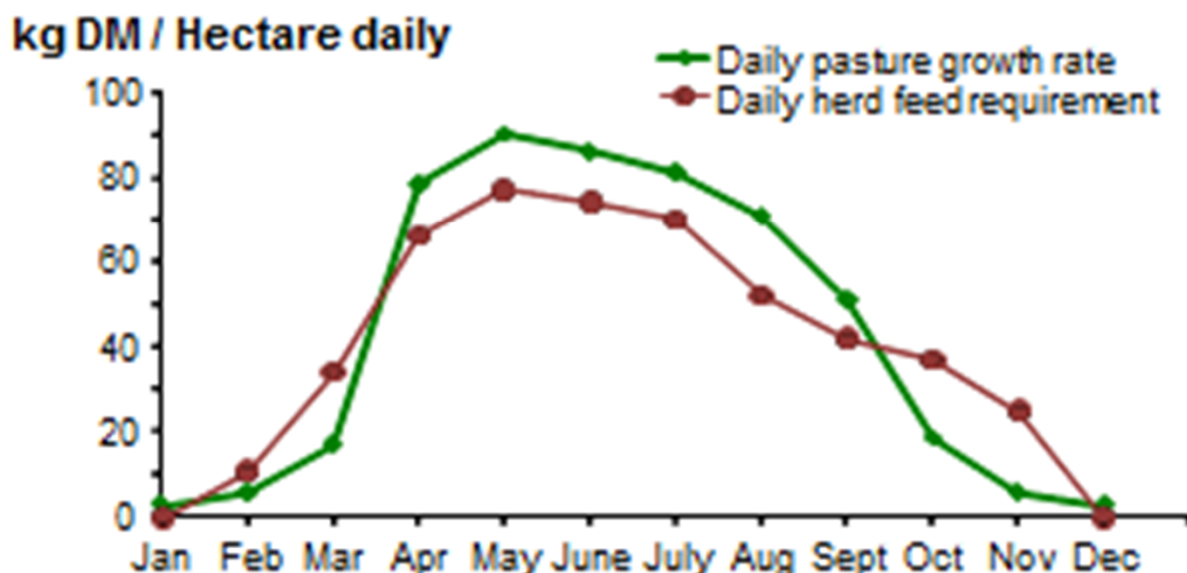
- EBI is the national breeding goal
- What is your breeding goal?

Conclusions

- Bull teams minimise the risk of all bulls falling
- Team reliability to-date based on unrelated, equally used bulls
 - Lower for related team with proportionally more matings to 1-2 sires
- ICBF sire advice does all the hard work – still a tool
- Sire selection
 - Where are you now?
 - Where do you want to go to?

Animal management for grass-based systems

**Alignment of
Grass Supply
&
Animal
Requirements**



**Compact calving,
high fertility status
dairy herd**

