A dairy-beef index to rank beef bulls on profitability when mated to a dairy cow

#ISGC18

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Number of dairy-bred calves is increasing

- **40% more births from dairy herd (+ 414k)**

- **72% more beef * dairy births (+ 275k).**

- **Increase in peak; 27% born in Feb 2010 (274k) versus 37% for Feb 2018 (538k)**

The challenges

1. **With a growing dairy herd, the quality of Irish beef production is at risk of deterioration**

2. **Good fertility and survival equates to a greater proportion of beef sire usage on dairy cows**

3. **Dairy farmers focused on dairy farmers**

    *   **Easy calving, short gestation length bulls**

Need a dairy-beef index that….

1. **Strikes a sensible balance between calving ease and carcass merit**

2. **Is scientifically sound, robust and defendable**

3. **Facilitates identification of beef bulls suitable for heifers**

4. **Incentivises beef breeders to target the dairy industry as a market**

5. **Incentivises beef breeders targeting the dairy industry to record appropriate traits accurately**
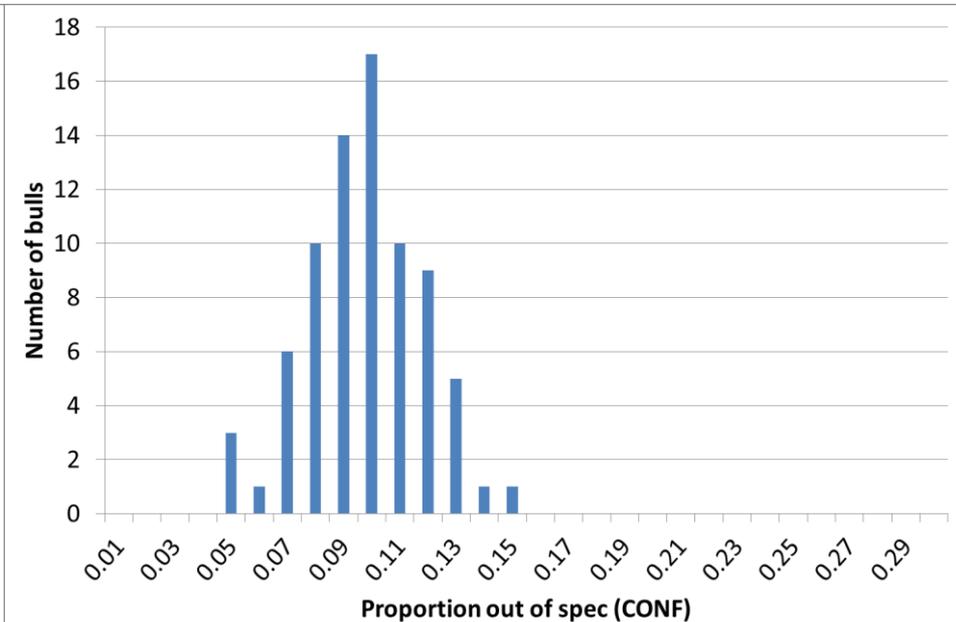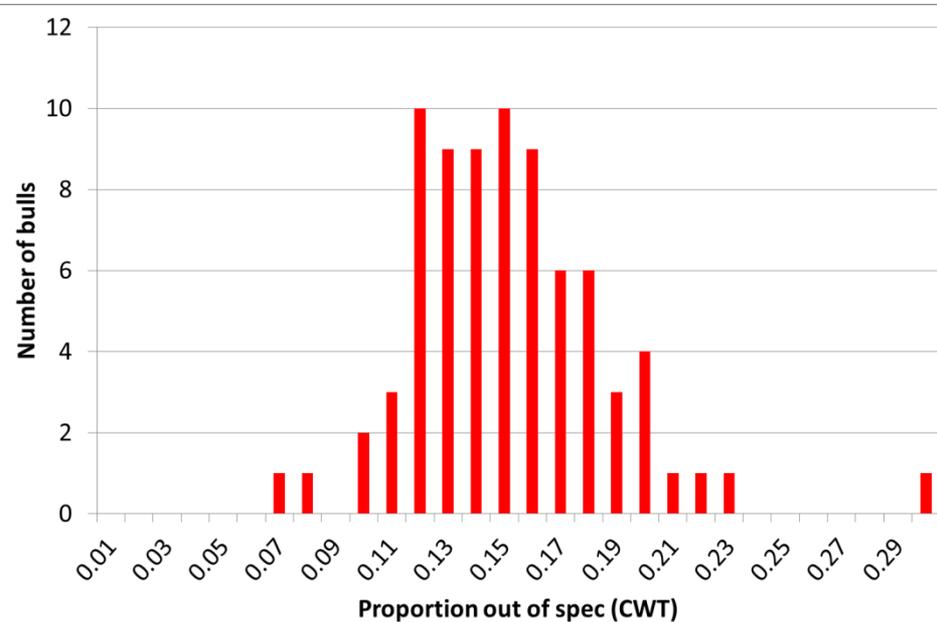
Traits

Sub-index	Trait	% genetic
Calving	Calving difficulty	10%
	Gestation length	35%
	Calf mortality	2%
	Calf vigour	Under research
Efficiency	Feed intake	33%
	Environmental footprint	Under research
	Age at slaughter	13%
Carcass	Carcass weight	35%
	Carcass conformation	35%
	Carcass fat	35%
	Ability to meet carcass specs	
	Meat quality	16%
Societal	Docility	20%
	Polled	100%

Specs per breed (from dairy dams)

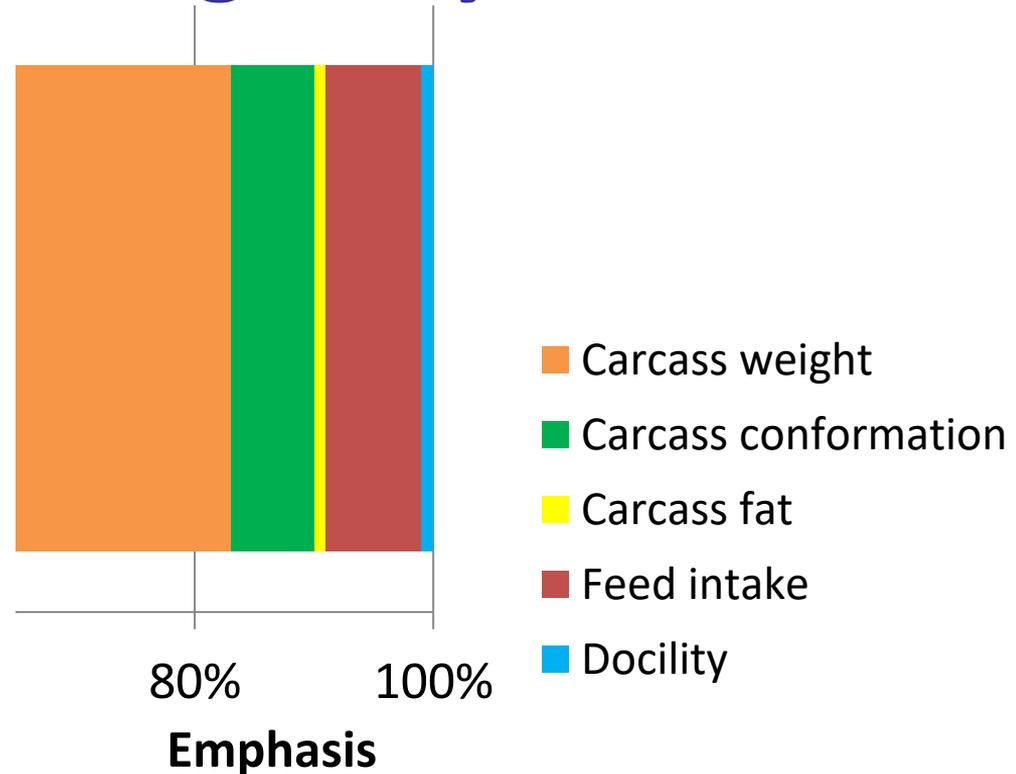| Breed	Number of bulls	No progeny	Carcass wt	% <280 kg	Carcass conf	% <O=
LM	25	4834	334	10%	7.0	1%
BB	29	2405	351	8%	7.8	2%
AA	35	2309	295	32%	5.6	12%
HE	31	1251	316	27%	5.5	17%
NR	10	168	307	29%	4.2	62%
FR	117	2066	309	26%	4.5	51%
HO	509	957	303	31%	3.6	74%
JE	50	244	255	66%	3.3	84%

Out of spec – Angus active sires
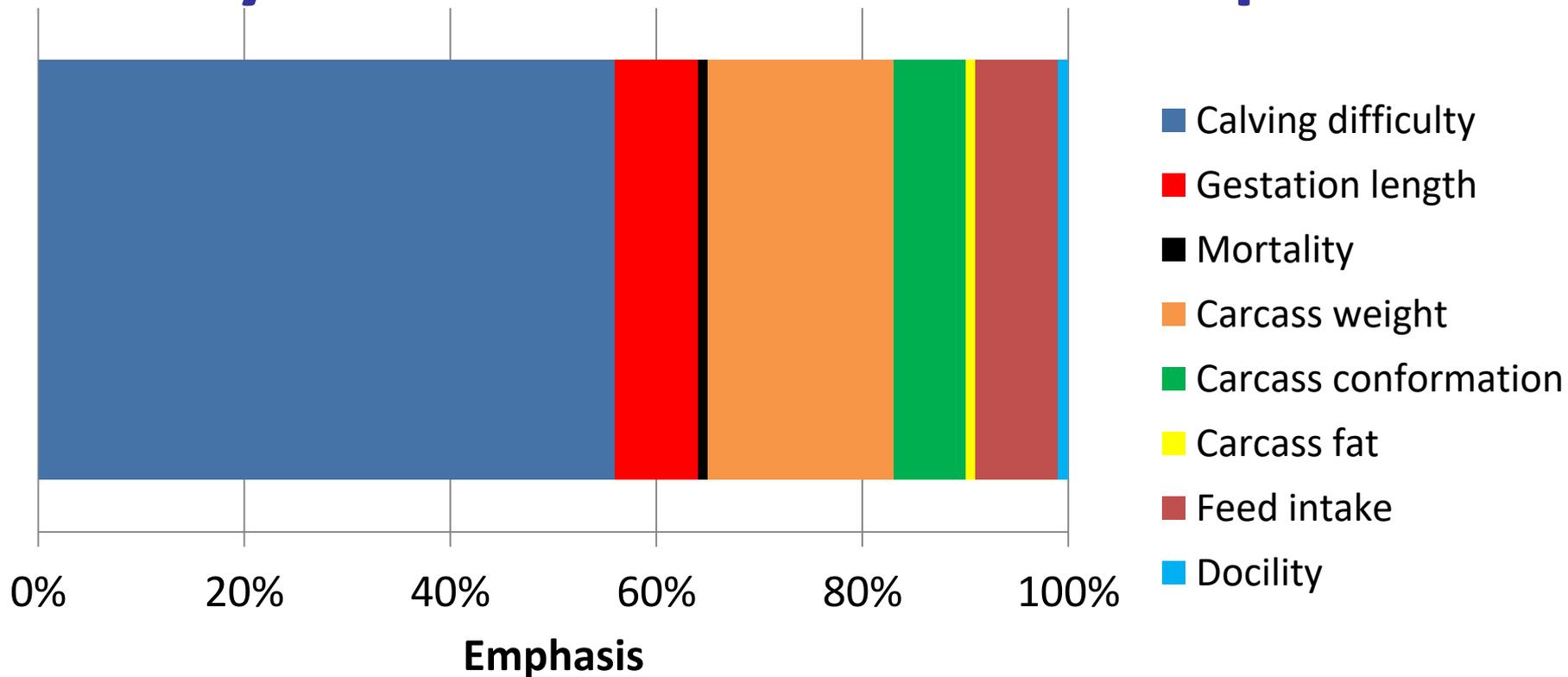
DBI versus calving difficulty

Index	Current Calving difficulty	Heifer difficult	Cow difficult	Prob safe on heifer	Gest	Mort	Feed intake	Carcass weight	Carc. Conf	Carc. fat	% out of spec - CWT	% out of spec Conf
Calving difficulty	1.37	6.15	2.03	66%	-1.41	-0.45	0.1	0.2	0.689	0.605	19%	9%
Top on DBI	2.61	7.85	3.23	44%	-0.43	-0.40	-0.18	12	1.429	0.01	13%	5%

Superior beef merit for minimal compromise on calving performance

Beef farmers purchasing dairy beef calves

- **Current focus is a breeding index for dairy farmers.**
- **Once calf is born focus shifts to "profit from beef".**
  - **Calving traits dropped**
  - **Added in non-genetic effects**
- **Opportunity to generate for all dairy beef calves at birth (i.e., with passport).**
- **Calves must be DNA verified => surety for buyer.**
- **Pilot project under way.**

Legend:
- Carcass weight
- Carcass conformation
- Carcass fat
- Feed intake
- Docility

X-axis: 80%, 100% — **Emphasis**

Take home message

- **New index to rank beef bulls for use on dairy cows**
  - **Compromise between the needs of dairy and beef farmers**
- **Massive variability exists within breeds**
  - **Opportunity to purchase on genetic merit rather than breed => Both for breeding & calf purchasing decisions.**
- **Gains to be achieved by combining all traits and minimising risks**