Teagasc, ICBF, AHI Suckler Events Autumn 2013

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Overview

- **ICBF Backround**

- **€uro-Stars**

- **Importance of Reliability %**

- **Gene Ireland - Maternal Bull Breeder Program**

- **BDP & Beef Genomics Scheme**

- **Data Recording**

What is ICBF?

The body in charge of the recording and processing of all data in Irish cattle breeding.

↓

Genetic Indexes

EBI

€uro-Stars

Intended to help farmers to make more profitable and efficient breeding decisions.

ICBF.com

Why are Genetics Important?

- Genetics are cumulative and permanent.

- Environment (feeding, housing etc.) has no effect.

Vs

- Well fed
- Nice haircut for the big day

- Tough spring
- Not much to eat

Appearance doesn't always tell the whole story!!

ICBF.com

Background to €uro-Stars

- Introduced in 2007.

- Led to significant genetic progress, but…..

- Maternal traits suffered dramatically.

- National Average Calving Interval went up to 407 days (13 ½ months).

- Average weaning weights were in decline due to lack of milk in suckler dams.
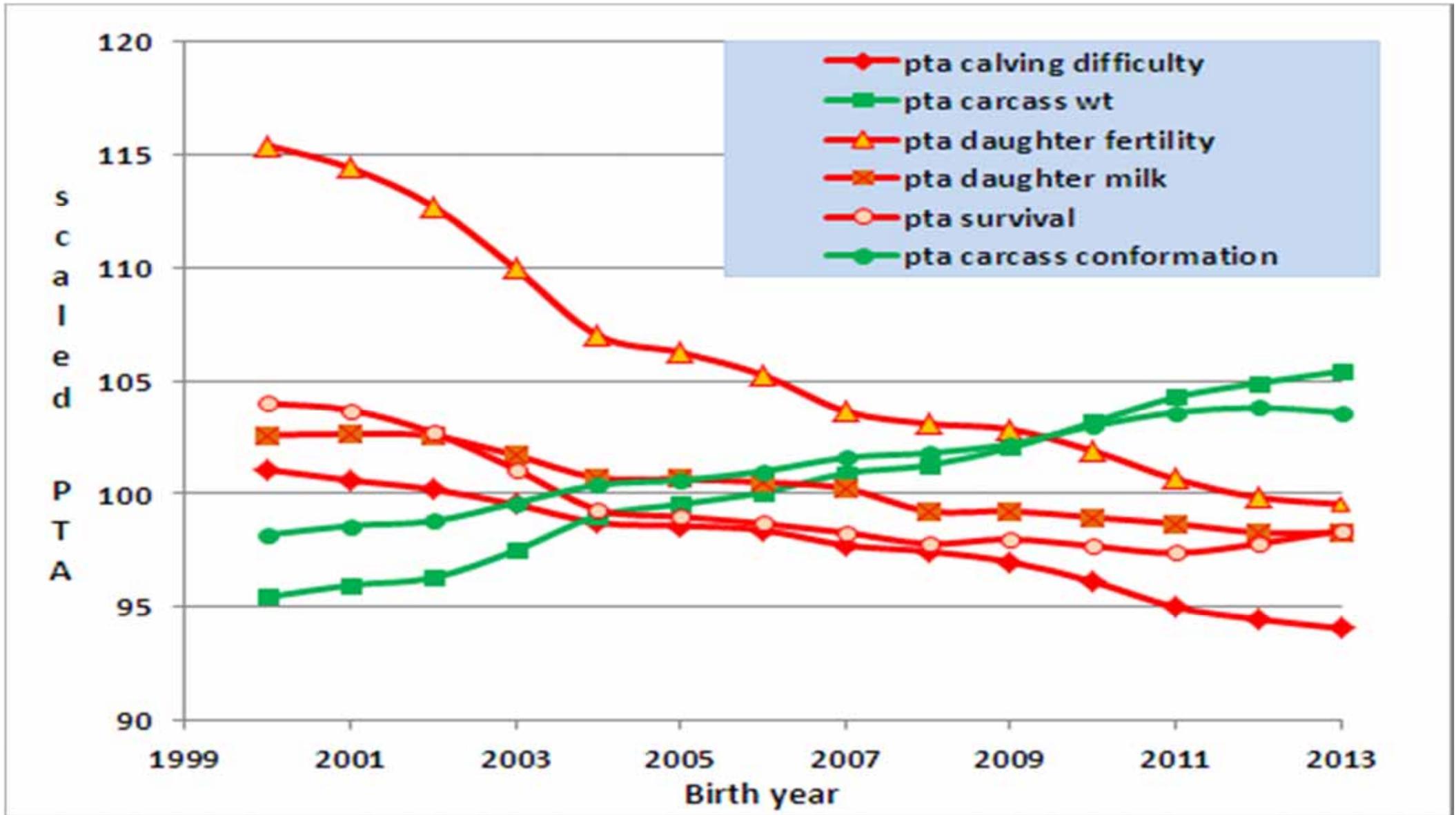
Genetic Relationships

Unfortunately there are unfavourable consequences to selection for higher weight gain and muscle!!!

"Huge calf but he's dead and cow is down"

"Mother has no milk. Pumping meal into the calves"

"Great cow but impossible to get her back in calf"

Genetic Impact on Suckler Herd

New €uro-Star Index

- New index has been introduced where SBV has been replaced by three main indices;

Maternal (Replacement)

Terminal

Dairy Beef

- This will define breeding males and females according to what they are genetically best suited to.

Star Rating (within Limousin breed)	Economic Indexes	€uro value per progeny	Index reliability	Star Rating (across all beef breeds)
★★★★★	Maternal	€279	83% (V High)	★★★★★
★★★★★	Terminal	€154	89% (V High)	★★★★★
☆☆☆☆☆	Dairy Beef	€	% (N/A)	☆☆☆☆☆

Star Rating (within Limousin breed)	Key profit traits	Index value	Trait reliability	Star Rating (across all beef breeds)
	Expected progeny performance			
	Calving difficulty (% 3 & 4) — Breed ave: 4.87%, All breeds ave: 4.99%	5.40%	95% (V High)	
★★★★⯨	Docility (1-5 scale) — Breed ave: -0.07, All breeds ave: 0.00	0.00 scale	93% (V High)	★★★☆☆
★★★★★	Carcass weight (kg) — Breed ave: 22.88kg, All breeds ave: 21.98kg	32kg	95% (V High)	★★★★⯨
★★★★⯨	Carcass conformation (1-15 scale) — Breed ave: 2.05, All breeds ave: 1.83	2.26 scale	95% (V High)	★★★★★
	Expected daughter breeding performance			
	Daughter calving difficulty (% 3 & 4) — Breed ave: 4.68%, All breeds ave: 5.19%	4%	68% (High)	
★★★★★	Daughter milk (kg) — Breed ave: -0.28kg, All breeds ave: -0.01kg	8.2kg	84% (V High)	★★★★⯨
★★☆☆☆	Daughter calving interval (days) — Breed ave: 0.78 days, All breeds ave: -0.53 days	1.33days	69% (High)	★⯨☆☆☆

Star Rating (within Simmental breed)	Economic Indexes	€uro value per progeny	Index reliability	Star Rating (across all beef breeds)
★★★★★	Maternal	€161	61% (High)	★★★★
★★★★★				★
☆☆☆☆☆				☆

Star Rating (within Simmental ...) ... beef breeds)

- Bull is strong on Maternal Index.
- Yet quite poor on actual maternal traits.
- Bull is getting the high maternal index from:
1. Low Calving Difficulty %.
2. Strong Carcass traits.

| Star Rating (within Simmental breed)		€uro value per progeny	Index reliability	Star Rating (across all beef breeds)
★★★★☆	Calving difficulty (% 3 & 4) Breed ave: 5.49%, All breeds ave: 5.04%	4.90%	90% (V High)	★★★☆☆
★★★★½	Docility (1-5 scale) Breed ave: 0.03, All breeds ave: 0.01	0.14 scale	94% (V High)	★★★★½
★★★★★	Carcass weight (kg) Breed ave: 20.75kg, All breeds ave: 22.69kg	36kg	74% (High)	★★★★★
★★★★★	Carcass conformation (1-15 scale) Breed ave: 1.45, All breeds ave: 1.91	2 scale	71% (High)	★★★½☆

Expected daughter breeding performance

★★★½☆	Daughter calving difficulty (% 3 & 4) Breed ave: 4.98%, All breeds ave: 5.19%	4.6%	39% (Low)	★★★☆☆
★½☆☆☆	Daughter milk (kg) Breed ave: 8.96kg, All breeds ave: 0.37kg	-.57kg	42% (Average)	★★½☆☆
½☆☆☆☆	Daughter calving interval (days) Breed ave: -0.37 days, All breeds ave: -0.13 days	3.6days	47% (Average)	½☆☆☆☆

Why are Beef Traits Included in Maternal Index?

- Approx. 50% of any bulls progeny are males.

- These need to have strong beef genetics in order to perform and leave a margin.

- Suckler cows also need to be able to pass a good beef merit onto their calves.

- Imagine if you used dairy cows as suckler cows!!!

- Plenty of milk, but……

- Calves wouldn't perform (Holstein, Jersey effect).

Importance of Reliabilities

- Indication of how well proven a bull is on any index or trait.

- Dependent on data being recorded on an animal.

- Reliabilities will increase in the following order:

Calving Difficulty

Docility

Carcass Traits

Daughter Traits
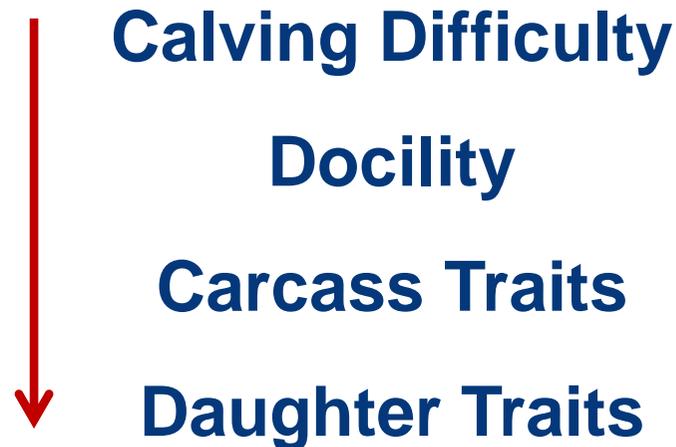
- *Note: AI bulls will increase much quicker than stock bulls.*

Pirate (PTE)-*High Reliability*

Star Rating (within Charolais breed)	Economic Indexes	€uro value per progeny	Index reliability	Star Rating (across all beef breeds)
★★★★⯪	Maternal	€100	96% (V High)	★★⯪☆☆
★★★★★	Terminal	€135	96% (V High)	★★★★★
☆☆☆☆☆	Dairy Beef	€	% (N/A)	☆☆☆☆☆

Star Rating (within Charolais breed)	Key profit traits	Index value	Trait reliability	Star Rating (across all beef breeds)
	Expected progeny performance			
	Calving difficulty (% 3 & 4) Breed ave: 7.55%, All breeds ave: 4.99%	7.00%	99% (V High)	**Lots of data on all traits.**
★★★⯪☆	Docility (1-5 scale) Breed ave: 0.03, All breeds ave: 0.00	0.02 scale	99% (V High)	★★★⯪☆
★★★★⯪	Carcass weight (kg) Breed ave: 31.88kg, All breeds ave: 21.98kg	36kg	99% (V High)	★ **Fully Proven!!**
★★★★☆	Carcass conformation (1-15 scale) Breed ave: 1.90, All breeds ave: 1.83	2 scale	99% (V High)	★★★★☆
	Expected daughter breeding performance			
	Daughter calving difficulty (% 3 & 4) Breed ave: 4.95%, All breeds ave: 5.19%	3.1%	98% (V High)	
★☆☆☆☆	Daughter milk (kg) Breed ave: -5.65kg, All breeds ave: -0.01kg	-9.4kg	98% (V High)	⯪☆☆☆☆
★★★★★	Daughter calving interval (days) Breed ave: -0.06 days, All breeds ave: -0.53 days	-2.69days	95% (V High)	★★★★☆

Curaheen Apostle (APZ)- *Mid Rel*

Star Rating (within Simmental breed)	Economic Indexes	€uro value per progeny	Index reliability	Star Rating (across all beef breeds)
★★★⯪☆	Maternal	€163	46% (Average)	★★★★⯪
★★⯪☆☆	Terminal	€57	61% (High)	★⯪☆☆☆
☆☆☆☆☆	Dairy Beef	€	% (N/A)	☆☆☆☆☆

Star Rating (within Simmental breed)	Key profit traits	Index value	Trait reliability	Star Rating (across all beef breeds)
	Expected progeny performance			
	Calving difficulty (% 3 & 4) Breed ave: 5.29%, All breeds ave: 4.99%	5.30%	98% (V High)	
★★☆☆☆	Docility (1-5 scale) Breed ave: 0.03, All breeds ave: 0.00	0.00 scale	94% (V High)	★★☆☆☆
★★⯪☆☆	Carcass weight (kg) Breed ave: 19.75kg, All breeds ave: 21.98kg	18kg	54% (Average)	★⯪☆☆☆
★★★☆☆	Carcass conformation (1-15 scale) Breed ave: 1.36, All breeds ave: 1.83	1.39 scale	40% (Average)	★⯪☆☆☆
	Expected daughter breeding performance			
	Daughter calving difficulty (% 3 & 4) Breed ave: 5.09%, All breeds ave: 5.19%	6.1%	5% (Too Low)	
★★★☆☆	Daughter milk (kg) Breed ave: 8.20kg, All breeds ave: -0.01kg	8.67kg	4% (Too Low)	★⯪☆☆☆
★★☆☆☆	Daughter calving interval (days) Breed ave: -0.20 days, All breeds ave: -0.53 days	.47days	24% (Low)	★★☆☆☆

Many calving and docility records.

Few carcass records.

No daughter performance records.

Castleview Gringo (GWO)-*Low Rel*

Star Rating (within Limousin breed)	Economic Indexes	€uro value per progeny	Index reliability	Star Rating (across all beef breeds)
★★★★★	Maternal	€179	31% (Low)	★★★★⯪
★★★★★	Terminal	€142	33% (Low)	★★★★★
☆☆☆☆☆	Dairy Beef	€	% (N/A)	☆☆☆☆☆

Star Rating (within Limousin breed)	Key profit traits	Index value	Trait reliability	Star Rating (across all beef breeds)
	Expected progeny performance			
	Calving difficulty (% 3 & 4) Breed ave: 4.87%, All breeds ave: 4.99% ⓘ	7.40%	37% (Low)	**No progeny born yet.**
★★★★⯪	Docility (1-5 scale) Breed ave: -0.07, All breeds ave: 0.00	0.02 scale	45% (Average)	★★★⯪☆
★★★★★	Carcass weight (kg) Breed ave: 22.88kg, All breeds ave: 21.98kg	37kg	33% (Low)	★★★★★
★★★★★	Carcass conformation (1-15 scale) Breed ave: 2.05, All breeds ave: 1.83	2.58 scale	32% (Low)	★ **Index based on a parent average.**
	Expected daughter breeding performance			
	Daughter calving difficulty (% 3 & 4) Breed ave: 4.68%, All breeds ave: 5.19%	4.8%	22% (Low)	
★☆☆☆☆	Daughter milk (kg) Breed ave: -0.28kg, All breeds ave: -0.01kg	-3.35kg	33% (Low)	★⯪☆☆☆
★★★☆☆	Daughter calving interval (days) Breed ave: 0.78 days, All breeds ave: -0.53 days	.57days	25% (Low)	★★☆☆☆

G€N€IR€LAND Maternal Bull Breeder Scheme

- ## Scheme was set up for two primary reasons:

  More accurate and complete data recording in pedigree herds.

  Place more emphasis on maternal traits in pedigree breeding.
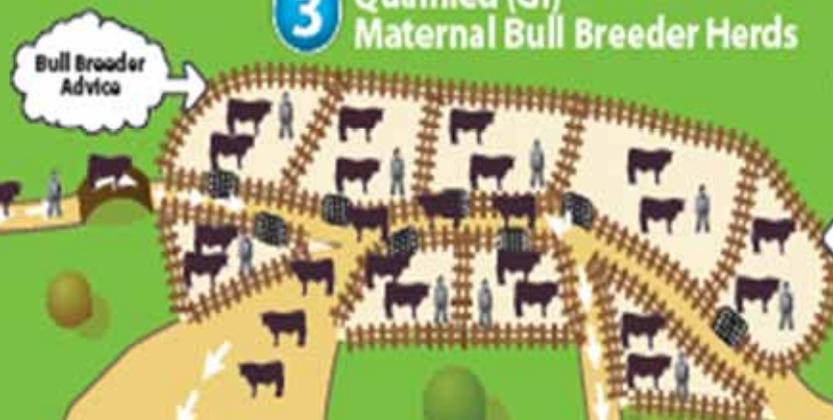
G€N€ IR€LAND (GI) Maternal Beef Breeding Program

1 Pedigree Beef Herds

2 Maternal Bull Breeder Qualification Process

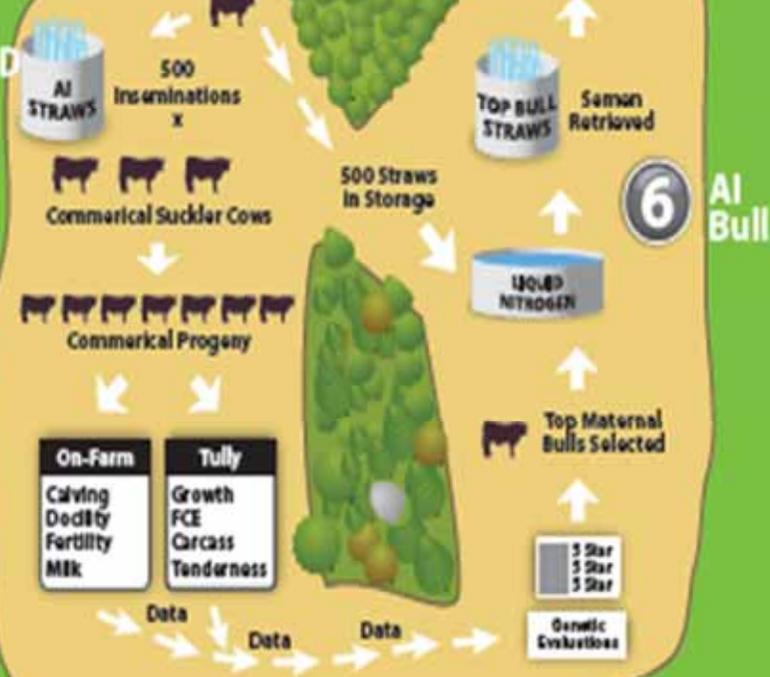**3** Qualified (GI) Maternal Bull Breeder Herds

4 Bull Breeder Advice

5 G€N€ IR€LAND Stamp

6 AI Bull

Bull Breeder Advice

Bull Breeder Advice

Herd Data Quality Index

Commercial Suckler Herds

+ Bulls sold as stockbulls

Bull Sale Catalogue

Online Bull Search

Recommended Bull Breeder List

AI STRAWS

500 Inseminations x

Commerical Suckler Cows

Commerical Progeny

500 Straws in Storage

TOP BULL STRAWS — Semen Retrieved

LIQUID NITROGEN

AI

Top Maternal Bulls Selected

On-Farm	Tully
Calving	Growth
Docility	FCE
Fertility	Carcass
Milk	Tenderness

5 Star / 5 Star / 5 Star

Genetic Evaluations

Data — Data — Data — Data

Benefits

Breeder

- Bull Breeder "*Stamp"* in sales catalogues and online bull search.
- Access to the best new AI Bulls coming off progeny test every year.
- Access to mating and stock management advice.
- Chance of getting a bull into AI.

Commercial Farmer

- More choice of both potential stock and AI bulls.
- Assurance on the performance, management and data recorded on these bulls.

ICBF

- More comprehensive and accurate data recording.
- Considerable progression in beef genetics.

Beef Data Programme (BDP)

- Replacement for Suckler Cow Welfare Scheme (SCWS).

- Focused solely on breeding data (sire, calving ease, docility etc.)

- Data can be recorded online through your ICBF login or farm software package, or forms that you will receive in the post.

- Vitally important that farmers actively participate in this scheme.

- Accuracy of data is hugely important.

ICBF.com
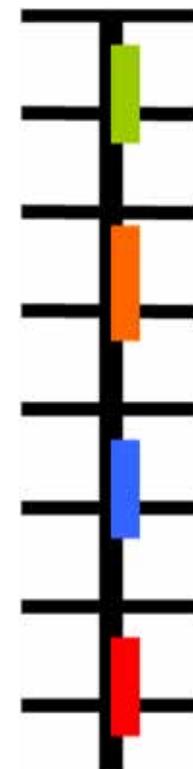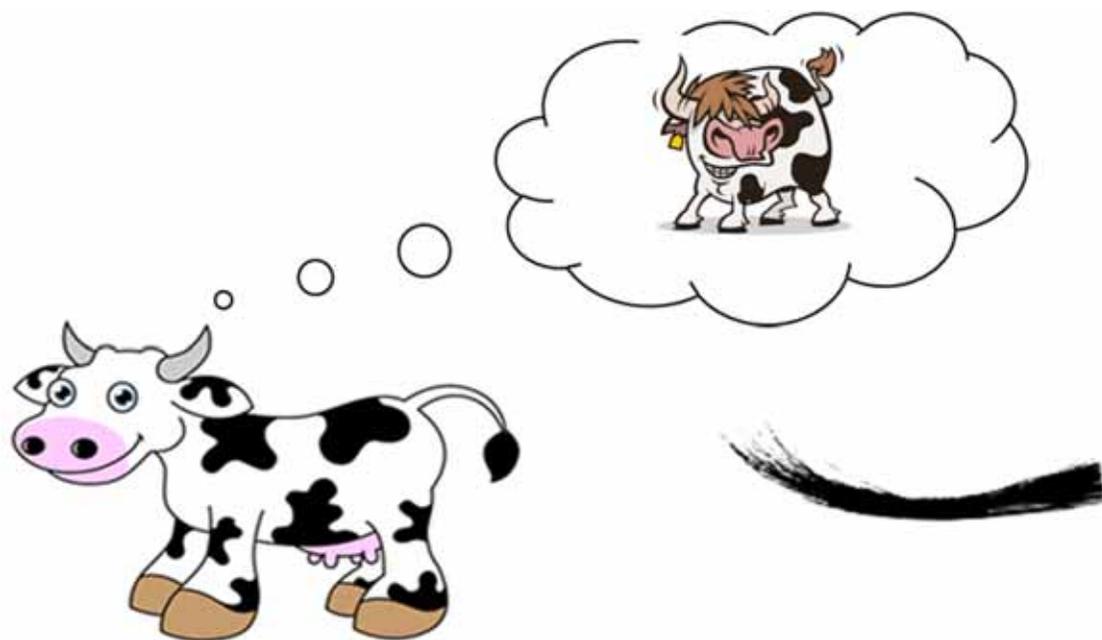
Genomics

- Genomics compares an animal's DNA to ancestor's and looks for similarities.

- Breeding Values are then produced that are similar to those of the matched ancestors.

Beef Genomics Scheme (BGS)

What's involved?

- Hair sample or ear tag (like BVD)

- 20 cow herd with a stock bull will sample 3 cows and the bull.

- Costing €20-€30 per animal.

What are the benefits?

- Guarantee traceability of Irish beef.

- Increase reliability % figures of €uro-Stars.

- Confirm parentage of all pedigree bulls.

- First country in the world to roll out a genomics scheme for commercial beef cattle.

Data Recording

- Data is the lifeblood of ICBF.

- Think of the ICBF database as a huge jigsaw puzzle.

- The more pieces of the "puzzle" we have (data), the more complete the "picture" (genetic indexes) will be.

- Recording sires, calving ease, liveweights, inseminations etc. all feed into genetic evaluations.
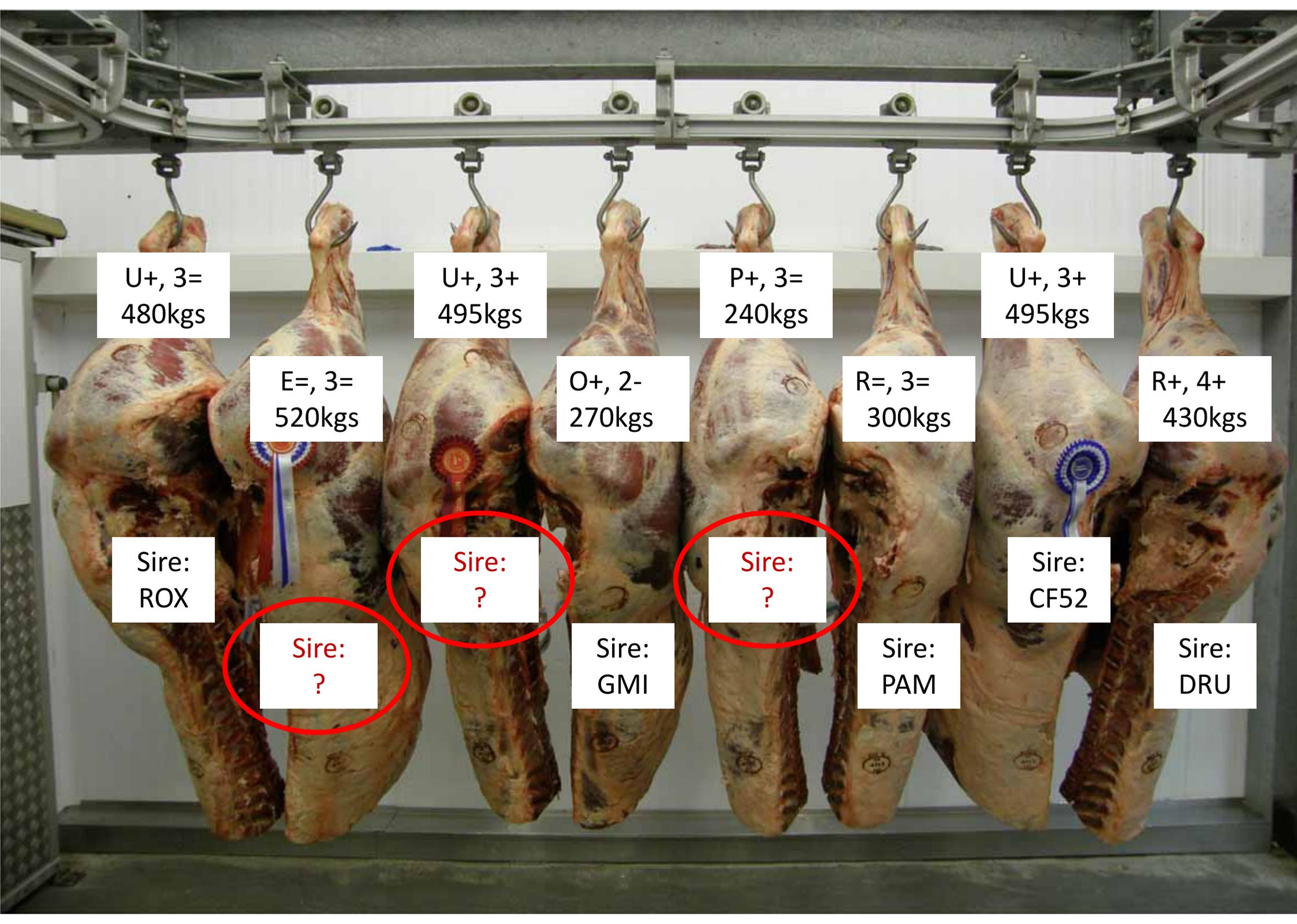
Rubbish In = Rubbish Out

SCWS Statistics

Sire Recording

- Most significant piece of data on any animal.

- Without a sire record, an animal's performance cannot be used to its full potential in genetic evaluations.

	2007 (Pre SCWS) with Sire Recorded	2012 (Last Year SCWS) with Sire Recorded
Calves Born	17%	70%
Dams of Calves Born	15%	38%

Still approximately 300,000 suckler calves born in 2012 with no recorded sire!!!