



IRISH CATTLE BREEDING FEDERATION

# Cork Marts



Kevin Downing



# Introduction

- Euro-Star Index
  - What are Euro-Stars about?
  - How do you use the Euro-Star Index?
  - What is Reliability?
  - What is Genomics?
  - Are 5-Star animals more profitable?
- Beef Data & Genomics Programme (BDGP)
  - Problem in Suckler Herd
  - BDGP Requirements
- Mart Boards Display
- Mart/Sale Catalogue
- Animal Index on your Phone

# What is a Euro-Star?

- The “Euro” part.
  - The additional profit that an animal (male or female) will deliver compared to another animal (male or female). Across breed.
- The “star” part.
  - Animals are ranked into “20-percentiles”
  - For example, 5-star => top 20% & 1 star=> bottom 20%.

# Two Overall Euro-Star Indexes

- Euro-Star Replacement Index.
  - For identifying potential female replacements.
  - For selecting bulls and cows to breed potential replacements.
- Euro-Star Terminal Index.
  - For selecting bulls to breed animals for slaughter.

# Replacement Index

Trait	Goal	Relative wt
Calvin	More	100%
Feed I	More	100%
Carcas	More	100%
Matern	More	100%
Female fertility	More	20%
Docility	More	4%

Emphasis:

Cow traits 71%

Calf traits 29%

## Terminal Index

Trait	Goal	Relative wt
Calving	Less	26%
Feed Intake	Less	16%
Carcass wt (for age)	More	56%
Docility	More	2%

# Understanding Stars

<b>€uro-Star Rankings</b>		
★★★★★	<b>5 Stars</b>	Genetic Index is in the top 20%
★★★★	<b>4 Stars</b>	Genetic Index is in the top 40%
★★★	<b>3 Stars</b>	Average Genetic Index
★★	<b>2 Stars</b>	Genetic Index is in the bottom 40%
★	<b>1 Star</b>	Genetic Index is in the bottom 20%

- Available across all beef breeds and within the individual breed of interest, e.g., LM.
- *Advice: Keep focused on the across breed stars.*

# Keep focused on accross breed stars; Some breeds are better than others for certain traits

Replacement Index Breed Percentiles (Aug 2015)



	1%	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	95%	99%	
	★	★	★	★★	★★	★★★	★★★	★★★★	★★★★	★★★	★★★	★★★	★★★	
										★★	★★	★★	★★	
<b>All Breeds</b> <i>(commercial animals)</i>	-€27	€2	€16	€33	€44	€55	€64	<b>€74</b>	€85	€98	€116	€131	€159	<b>All Breeds</b> <i>(commercial animals)</i>
Angus	€16	€39	€50	€64	€77	€82	€90	<b>€97</b>	€104	€113	€127	€138	€162	Angus
Aubrac	€36	€59	€70	€83	€95	€104	€113	<b>€120</b>	€129	€139	€153	€164	€188	Aubrac
Blonde										€57	€72	€86	€106	Blonde Aquitaine
										€7	€24	€36	€65	Belgian Blue
Charolais	-€74	-€49	-€36	-€20	-€8	€1	€9	<b>€18</b>	€26	€36	€51	€63	€88	Charolais
Hereford	-€22	€0	€10	€22	€31	€38	€45	<b>€52</b>	€59	€67	€80	€89	€109	Hereford
Limousine	-€8	€14	€25	€39	€49	€57	€64	<b>€72</b>	€80	€89	€103	€115	€138	Limousine
Piemontese	€11	€44	€54	€65	€73	€82	€90	<b>€97</b>	€106	€119	€132	€145	€168	Piemontese
Partenaize	€15	€37	€48	€61	€69	€77	€85	<b>€93</b>	€101	€111	€124	€136	€161	Partenaize
Salers	€69	€91	€103	€119	€129	€137	€145	<b>€152</b>	€160	€169	€184	€195	€223	Salers
Shorthorn	€50	€68	€78	€89	€97	€105	€111	<b>€117</b>	€123	€131	€142	€152	€169	Shorthorn
Simmental	€7	€34	€46	€61	€73	€82	€91	<b>€100</b>	€110	€124	€143	€153	€169	Simmental
	★	★	★	★★	★★	★★★	★★★	★★★★	★★★★	★★★	★★★	★★★	★★★	
										★★	★★	★★	★★	
	1%	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	95%	99%	

**€74 is starting value for 4 Star**

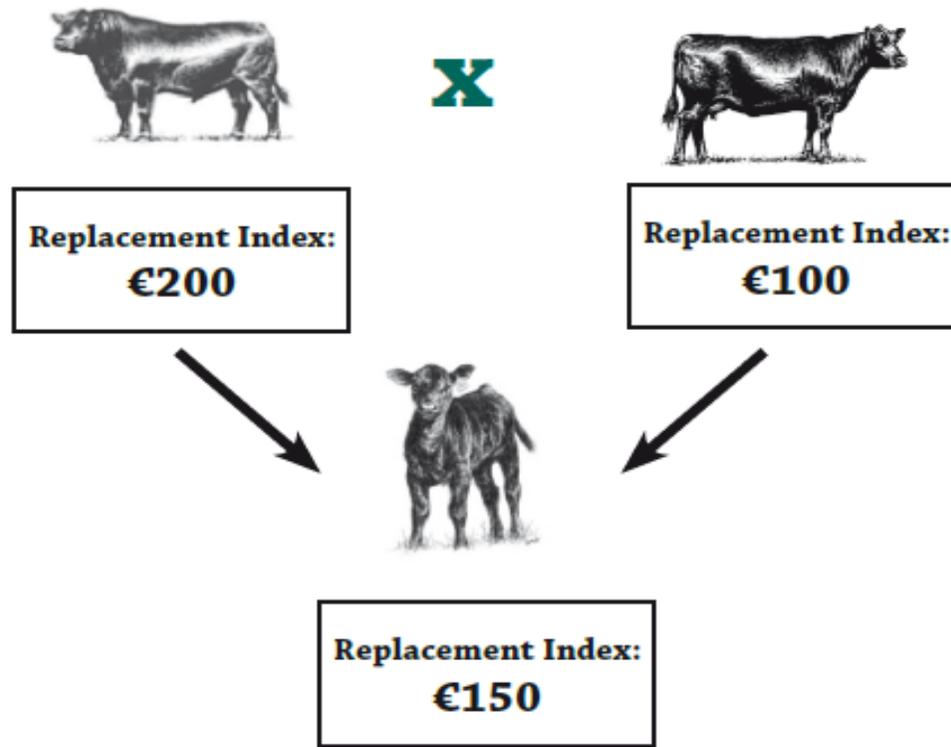
# Star Cut-offs for Replacement Index



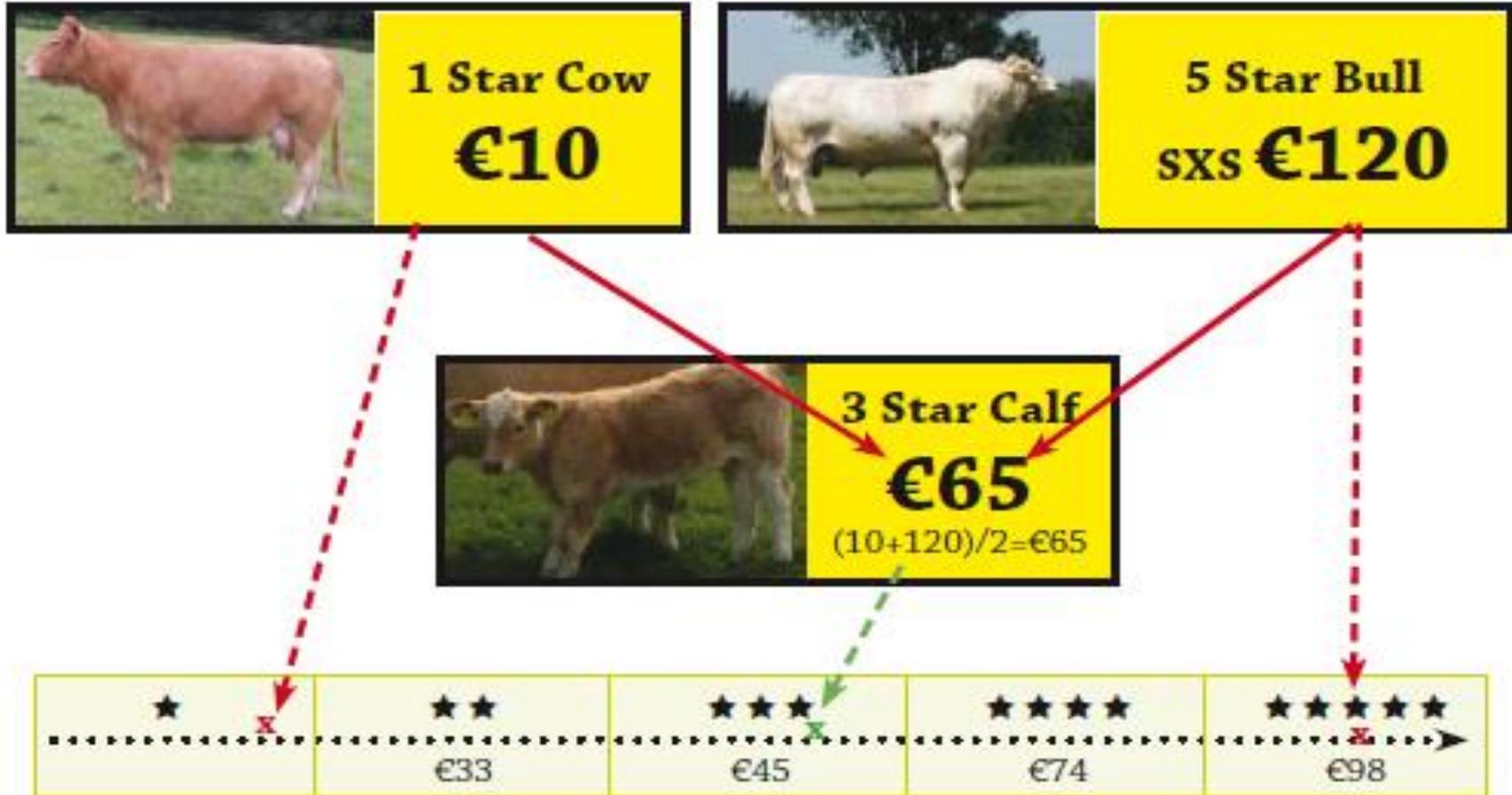
- Animals with a Euro-Star index value of more than €74, are 4 stars.
- A cow with a replacement index of €100 (5 stars), is expected to leave an additional €50 more profit per progeny than an animal with a replacement index of €50 (3 stars).

# How do you use the index

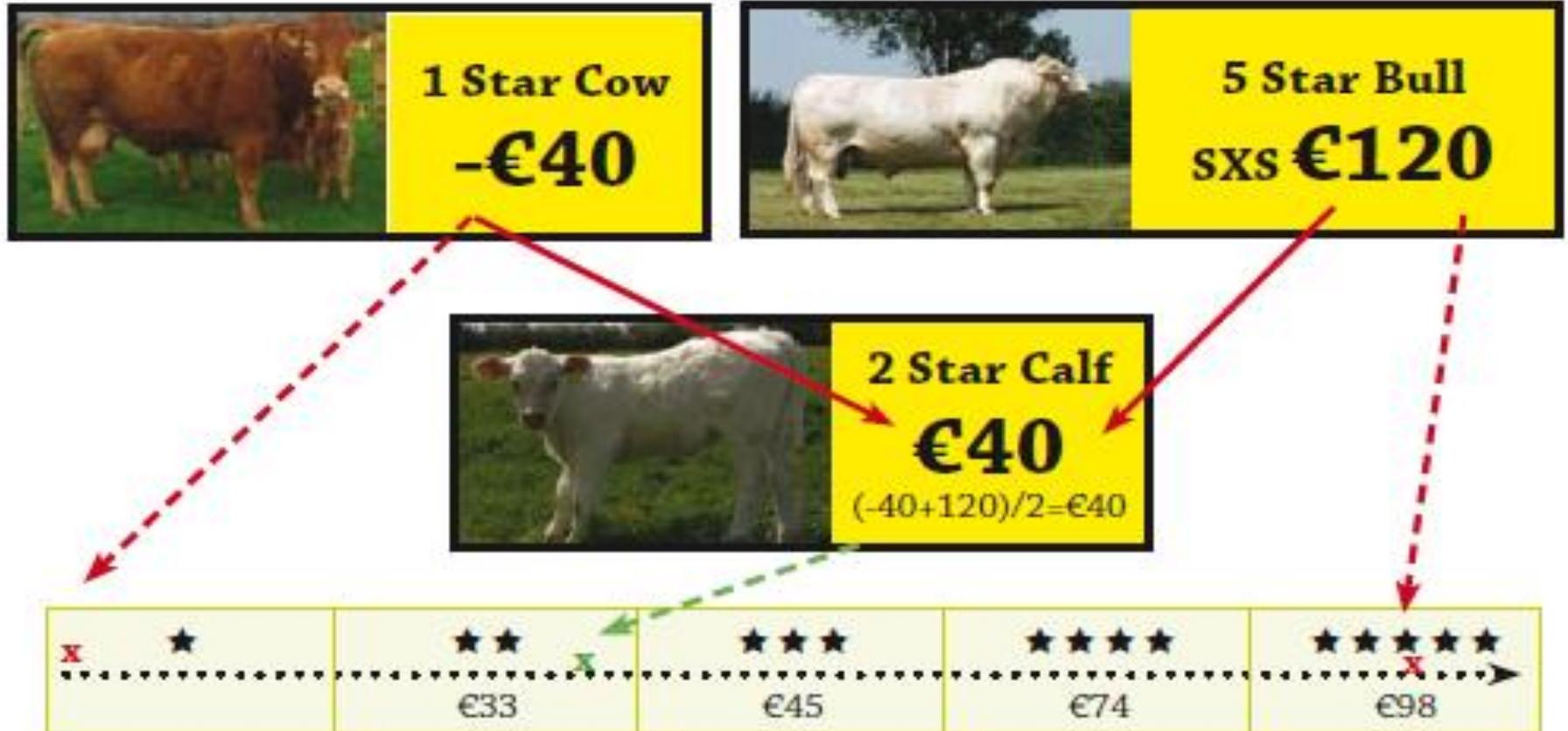
Example: A bull with a Replacement Index of **€200** mated to a cow with an index of **€100**, is expected to sire a daughter with a Replacement Index of **€150** ( $€200 + €100 / 2 = €150$ ). This means that she will be €150 more profitable than the average Irish suckler cow.



# Mating a 5-Star Bull with a 1-Star Cow



# Mating a 5-Star Bull with a 1-Star Cow





# 5 Star Cows Leaving More Profit



## All Suckler Cows



Cow Details				Milk Performance		Fertility Performance			Progeny Carcass Performance		
Star Rating	No. of Cows	Replacement Index	% Still Alive	Calf Weaning Weight (kg)	Cow Milk Score (1-5)	Age 1st Calving (months)	Calving Interval (days)	No. of Calvings	Carcass Weight (kg)	Carcass Value	Age at Slaughter (days)
★★★★★	33,493	€108	83%	336	4.08	30.2	403	2.69	358	€1,474	697
★★★★	24,317	€76	80%	324	3.87	30.9	407	2.56	356	€1,469	712
★★★	21,644	€60	79%	319	3.74	31.3	411	2.47	356	€1,470	715
★★	20,908	€43	76%	315	3.61	31.5	416	2.40	357	€1,475	721
★	23,911	€12	72%	309	3.36	32.1	423	2.25	357	€1,477	726
<b>Difference 5 Star V's 1 Star</b>		<b>+€96</b>	<b>11%</b>	<b>27kg</b>	<b>0.72</b>	<b>-1.9 months</b>	<b>-20 days</b>	<b>0.44 calves</b>	<b>0kg</b>	<b>€-2</b>	<b>-29 days</b>

Performance of all suckler females, born in 2011, when ranked on new genomic test proofs

# What is Reliability?

- An indication of our level of confidence in our prediction of genetic merit.

## Reliability % - Explained

Reliability % Range	Comment	Bull Type	Explanation
0-20%	Low	Young Bull	€uro-Stars mostly based on those of the animal's Parents & Grandparents.
20-50%	Low-Medium	Young Bull	€uro-Stars influenced by data recorded on the animal (Liveweight, Milk Score etc).
50-90%	Medium-High	AI Sire /Stockbull	€uro-Stars increasingly affected by the performances of an animal's offspring.
> 90%	High	AI Sire	€uro-Stars dominated by the performances of an animal's offspring.

# What is Genomics?

- “By taking a tissue sample, ICBF can assess the animals DNA and in doing so predict expected performance based on knowledge of how similar DNA (from other animals) has performed on Irish farms in the past”.
- This is added to the existing Euro-Star of the animal => more accurate evaluation.

# Impact of Genomics on Reliability

Trait	Reliability		Equivalent Progeny Records
	Pre-Genomic	Genomic	
Age 1st Calving	21%	46%	6
Calving Interval	16%	44%	96
Survival	14%	43%	140
Carcass Weight	25%	48%	5
Carcass Fat	22%	46%	5
Carcass Conformation	21%	46%	6
Feed Intake	12%	42%	4

- Expect to see Replacement Index values increase from 20% to 40% as result of genomics. Equivalent to “on average” 10 progeny records.

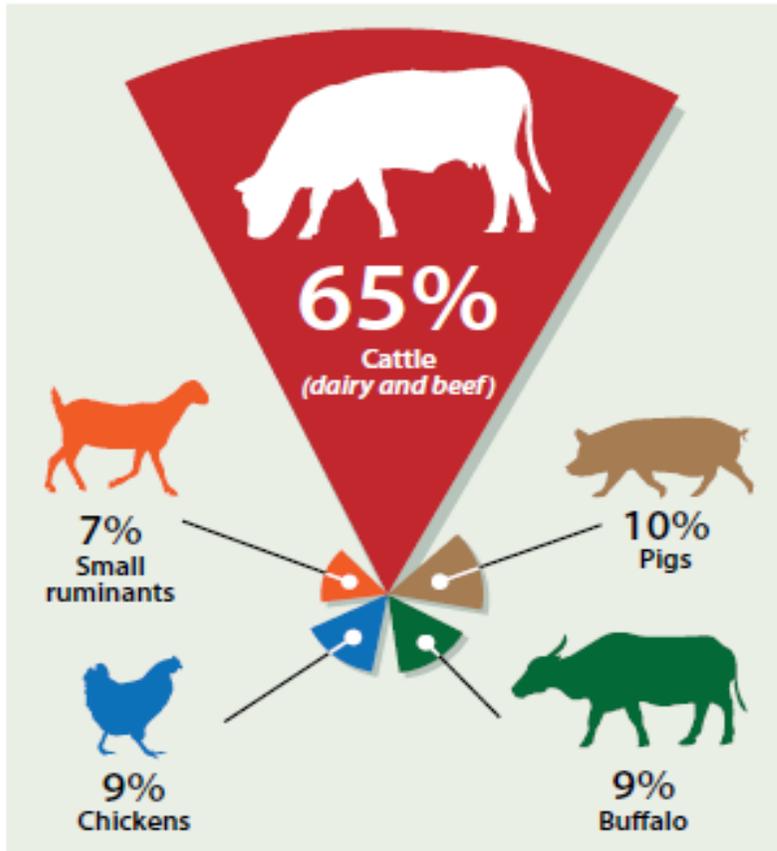
## Benefits of Genomics

- More accurate Euro-Star evaluations.
  - Identify better animals earlier.
- Confirm parentage.
  - Future plans include use of a “dual tag” to take tissue samples at birth.
  - Opportunity to use DNA to confirm sire & dam at time of birth registration.
- Breed composition of the animal.
- Major genes (e.g. polledness) and/or diseases.

# Beef Data & Genomics Programme (BDGP)

- Focused on breeding more profitable & sustainable cows (carbon efficient).
  - Breeding cows that are smaller, eat less, but produce more => the principle of “more from less”.
  - Acknowledged as a key strategy to address climate change.
- Funded as part of EU Rural Development Program. Co-funded with our own DAFM.
- €300m total funding over 6 years.
  - ~€40m allocated towards genotyping.
  - 1 million animals genotyped in next 2 years.
- ~24k farmers & ~500,000 cows “signed up”.

# Current Problem

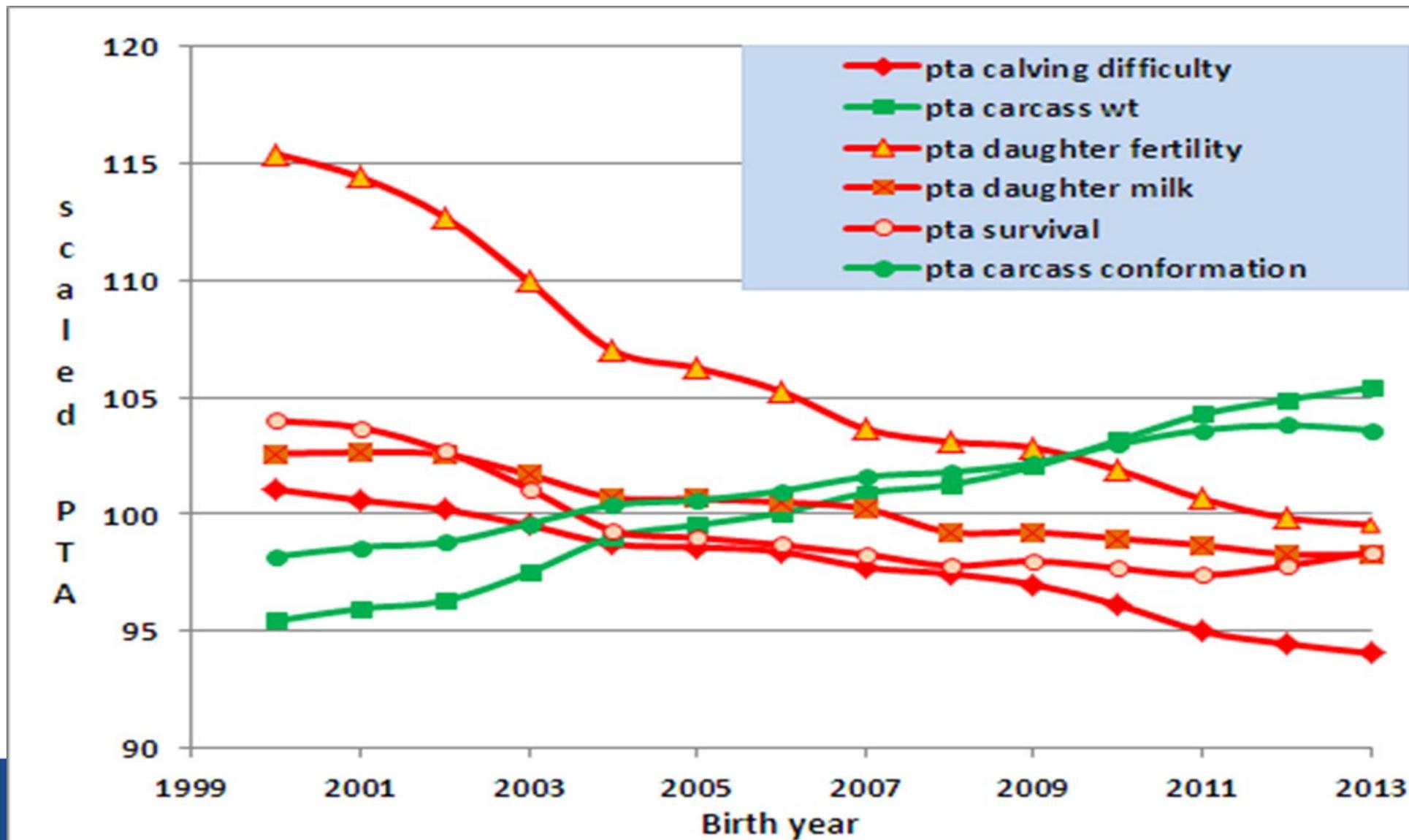


Livestock greenhouse gas emissions per species  
(Lifecycle Analysis, Gerber et al., 2013)

- 12% of global GHG emissions are from agriculture (figure is 33% for Ireland).
  - Cattle are worst offenders.
- Environmental Solution; cut our cattle herd.
- Irish Solution; Breed more sustainable animals => BDGP 2015-2020.

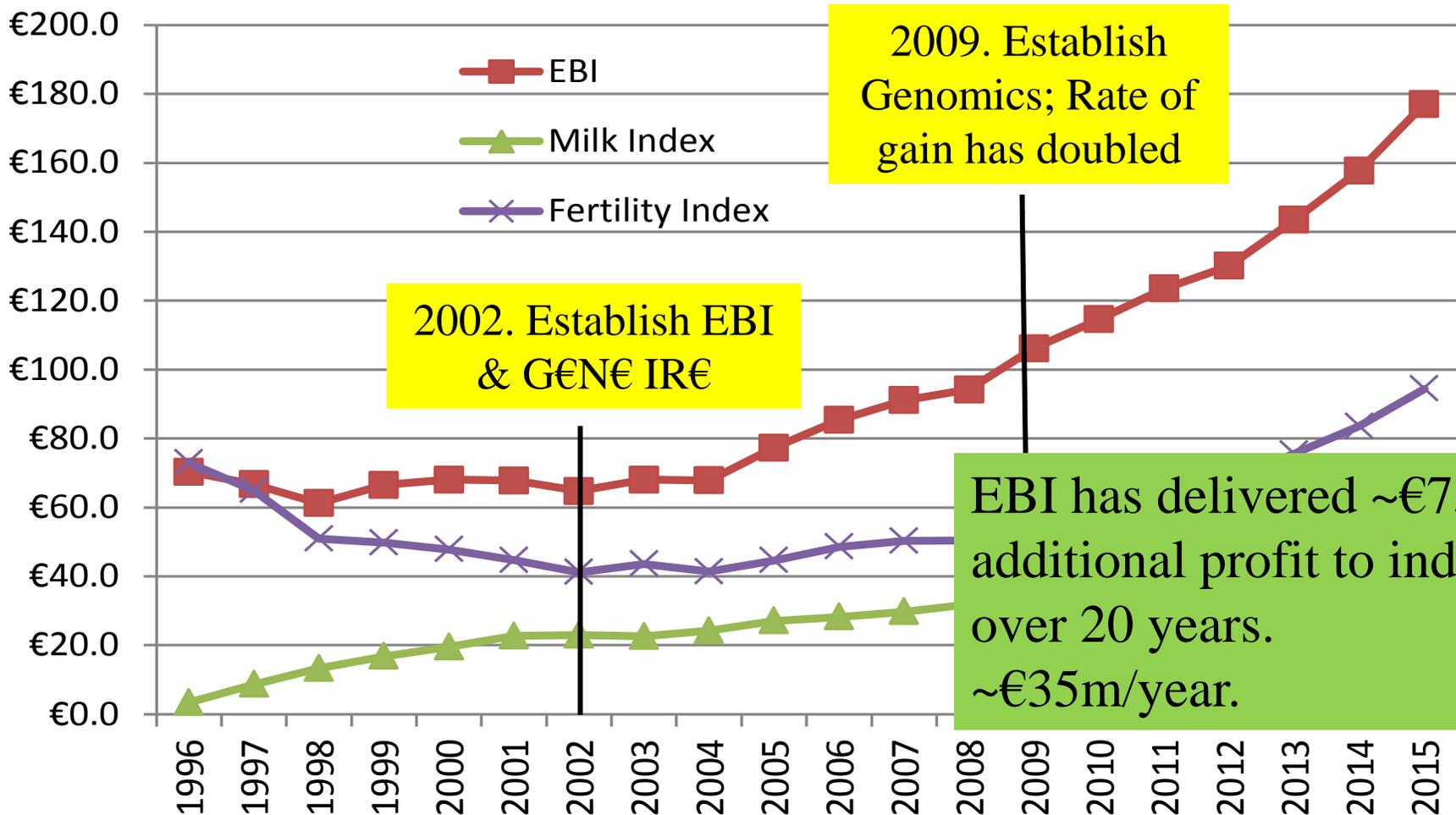
**Scheme was sold on the basis of climate change benefits**

# Past – Over focus on output!



# We have been here before!

## Genetic Trends in EBI (1996 - 2015).



EBI has delivered ~€750m additional profit to industry over 20 years. ~€35m/year.

# Poor Efficiency – Average Irish Suckler Cow

- Key Performance Indicators:

	<b>Target</b>	<b>Currently</b>
Calving Interval	365	412
Calves/Cow/Year	.95	.79
% Heifers Calved 2 Yrs	100%	17%
Weaning Weight (% of cow weight)	>50%	<50%

- Significant issues.
- Fertility is most significant.
- 100 cows weaning 79 calves per year

# Requirement 1 – Calving Details



- Record sires and calving ease.
- Calf size and calf vigour (new).
- Animal events book or online.

## Requirement 2 – Surveys



- Cow milk and docility, calf quality and docility, Scour, etc.
- Cow and bull culling reasons.
- Paper or online.

## Requirement 3 – Genotyping

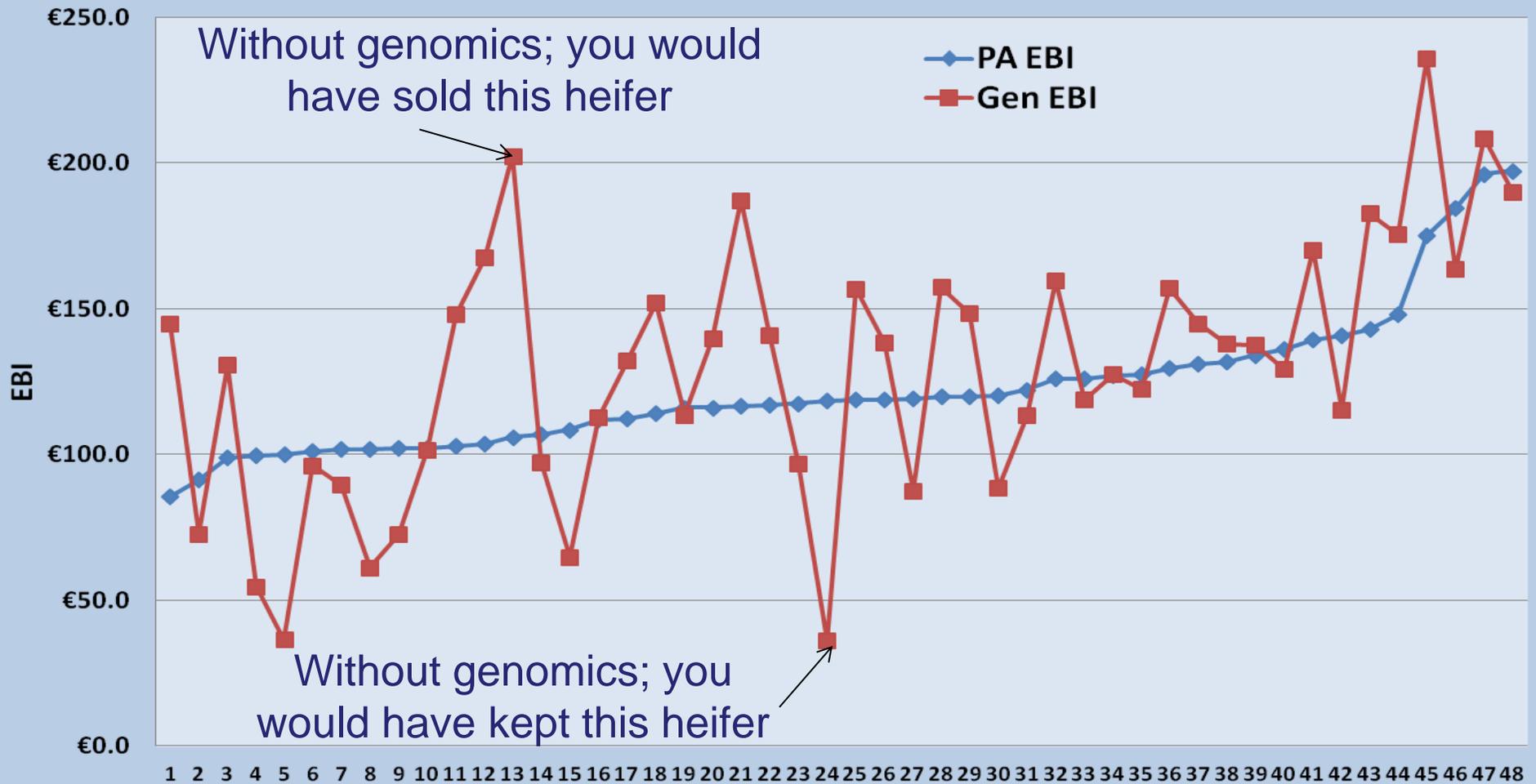


- 60% of reference to be genotyped annually.
- ICBF select priority animals.
- Farmer tags animals and returns by given date.

# Genotyping

## More Informed Breeding Decisions: Dairy Example

Parent Avg. EBI V's Genomic EBI



# Requirement 4 – Replacement Strategy: Female



- Important dates
  - 31<sup>st</sup> Oct 2018 (20% of females >16 months are genotyped 4 or 5 star).
  - 31<sup>st</sup> Oct 2020 (50% of females >16 months are genotyped 4 or 5 star).
  - 20 cow herd needs:
    - 4 by 2018 & 10 by 2020.

Females qualify on Replacement Index Only

# Requirement 4 – Replacement Strategy: Male



- Important dates

- After 30<sup>th</sup> Jun 2016 (80% of AI bulls used must be 4 or 5 star).
- 30<sup>th</sup> Jun 2019 (must have at least one genotyped 4 or 5 star bull on farm)
- 30<sup>th</sup> Jun 2020 (must have at least one genotyped 4 or 5 star bull on farm)

**Bulls qualify on Replacement and Terminal Index**

## Grant Aid for Mart Boards

- ICBF helped secured €250k from DAFM to promote Genetic Indexes at the Marts.
- Facilitate the purchase of eligible replacement females for BDGP
- 40% Grant Aid up to a max. of €4k (max. €10k total spend).
- Each premises can only apply for grant aid on one screen.
- 69 applications at close.

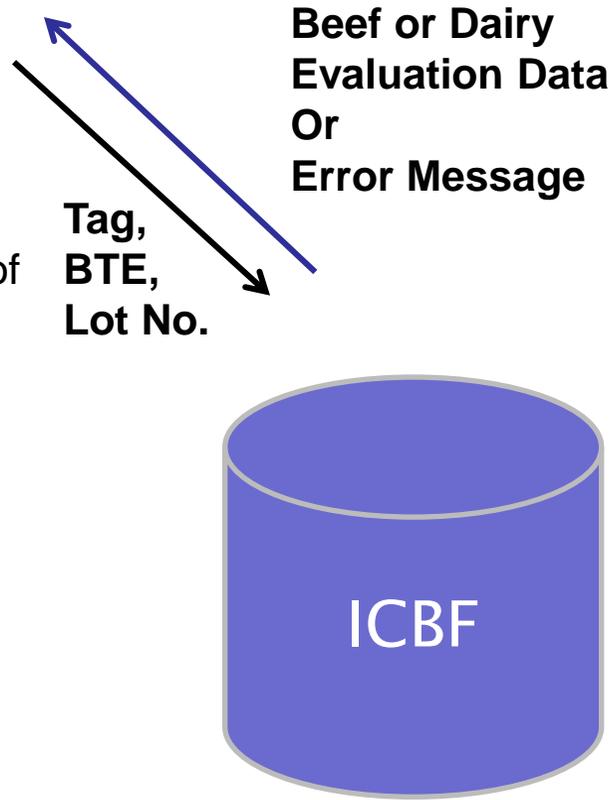
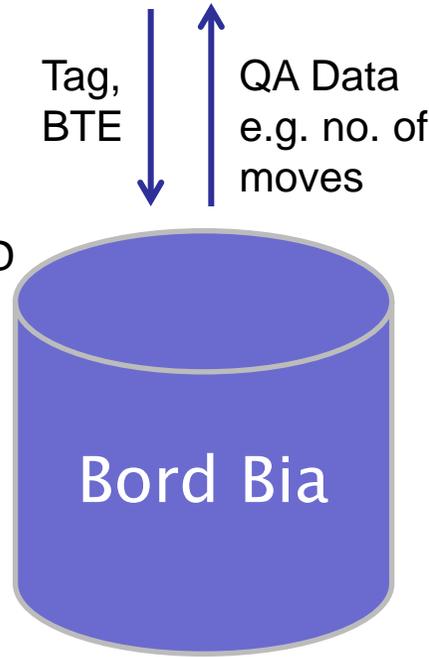
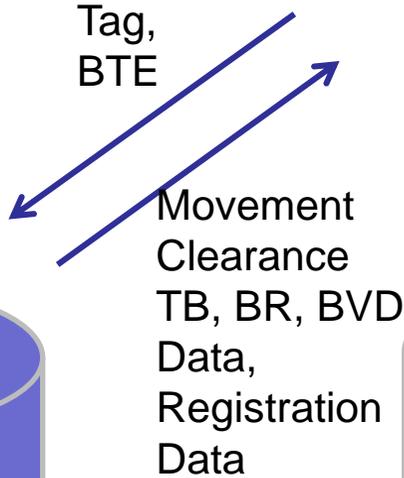


## Current Status

- Three software providers
  - Newline, Icecube & MartTrak
- Seven Marts Live
  - Ballybofey & Stranolar Mart
  - Carndonagh Mart
  - Cashel Mart
  - Clare Mart
  - Kanturk Mart
  - Mid-Tipp Mart
  - Waterford Ross Mart



# How the Mart Board System Operates



# Rules on Mart Board Display

- Herd Rules:
  - BDGP Member or Herdplus Member
- Beef Pedigree Male –
  - $\geq 4$ ★ on Replacement or Terminal, within or across breed.
  - Indexes and across breed stars shown for Terminal and Replacement
- Beef Pedigree Female –
  - $\geq 4$ ★ on Replacement, within or across.
  - Replacement Index, within and across breed stars shown
- Beef Commercial Female –
  - $\geq 4$ ★ on Replacement, across breed.
  - Replacement Index and across breed stars shown.
- Dairy Animal –
  - EBI, Fertility, Milk Indexes shown (Must be  $>$  National Average on EBI)

# Newline - Dairy Female

<b>Lot No 42D</b>		<b>Qty 1</b>	<b>WT 0 KGs</b>
<b>FA Days Breed Moves</b>			
Y		FR	
<b>Remarks</b>			
<b>TB Test</b>	<b>Bruc Test</b>	<b>BVD Test No</b>	
03/06/2015			
<b>Seller</b>	<b>IRISH COUNTRY MEATS</b>		
	<b>EBI</b>	<b>Milk</b>	<b>Fertility</b>
	€223	€9	€174

# Newline - Beef Pedigree Female

<b>Lot No 41D</b>		<b>Qty 1</b>	<b>WT 0 KGs</b>
<b>FA Days Breed Moves</b>			
Y		AA	
<b>Remarks</b>			
<b>TB Test</b>	<b>Bruc Test</b>	<b>BVD Test</b>	
01/05/2015		No	
<b>Seller</b>	<b>RDERRY GALBALLY CO.TIPPERARY</b>		
<b>1 CALVES-SINGLE STILL To SELL</b>			
	<b>Replacement Index</b> €176	<b>Within Breed</b> ★★★★★	<b>Across Breed</b> ★★★★★

# Newline - Beef Commercial Female

<b>Lot No 41D</b>		<b>Qty 1</b>	<b>WT 0 KGs</b>
<b>FA Days Breed Moves</b>			
Y		AA	
<b>Remarks</b>			
<b>TB Test</b>	<b>Bruc Test</b>	<b>BVD Test</b>	
01/05/2015		No	
<b>Seller</b>	<b>RDERRY GALBALLY CO.TIPPERARY</b>		
<b>1 CALVES-SINGLE STILL To SELL</b>			
 <b>Replacement Index</b> Across Breed <b>€166</b> ★★★★★			

# Newline - Beef Pedigree Male

<b>Lot No 41D</b>		<b>Qty 1</b>	<b>MALE</b>	<b>WT 0 KGs</b>
<b>FA Days Breed Moves</b>				
Y		AA		
<b>Remarks</b>				
<b>TB Test</b>		<b>Bruc Test</b>		<b>BVD Test</b>
01/05/2015				No
<b>Seller</b>	<b>RDERRY GALBALLY CO.TIPPERARY</b>			
<b>1 CALVES-SINGLE</b>		<b>STILL To SELL</b>		
	<b>Replacement Index</b>	<b>Across Breed</b>	<b>Terminal Index</b>	<b>Across Breed</b>
	€151	★★★★	€36	★

# Icecube - Beef Pedigree Male

**JOHN VAUGHAN, BALLYBREEN  
KILFENORA, CO. CLARE**

Lot No	<b>33</b>	No in Lot	<b>1</b>
Avg Wgt	<b>480 Kg</b>	BVD Test	<b>YES</b>
DoB (O)	<b>07/10/15</b>	QA	<b>NO</b>
Sex	<b>M</b>	Owners	<b>1</b>
TB	<b>14/01/16</b>	Days In Herd	<b>230</b>
Breed	<b>AA</b>	Export	<b>R</b>

 Replacement Index	Across Breed	Terminal Index	Across Breed
<b>€95</b>	★★★★	<b>€57</b>	★★

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**GENERAL CATT**

# Icecube - Beef Commercial Female

**THOMAS CONDON, CLOONYSCHAHANE  
NEWCASTLE WEST, CO. LIMERICK**

Lot No	<b>136A</b>	No in Lot	<b>2</b>
Avg Wgt	<b>318 Kg</b>	BVD Test	<b>YES</b>
DoB (O)	<b>27/02/15</b>	QA	<b>NO</b>
DoB (Y)	<b>13/04/15</b>	Owners	<b>1</b>
Sex	<b>F</b>	Days In Herd	<b>407</b>
TB	<b>03/05/16</b>	Export	<b>YES</b>
Calf Reg	<b>N</b>		
Breed	<b>AAX</b>		



Replacement Index

**€87**

Across Breed



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**GENERAL CATTLE SALE KILRUSH WED. 25th. SCARIFF SAT 28th**

# ICBF Mart Catalogue Application

**Sale Day Catalogue List**

Search...

<a href="#">KANTURK MART</a> Percival St Kanturk Co. Cork	15-MAR-16
<a href="#">MANORHAMILTON MART</a> Station Rd Manorhamilton Co. Leitrim	17-FEB-16
<a href="#">MID TIPP MART</a> Ballycurrane Thurles Co. Tipperary	21-MAR-16

**Catalogues List**

Name	Change Date	
<a href="#">craig_beef</a>	03-AUG-2010 12:06	
<a href="#">Test</a>	07-OCT-2010 11:43	
<a href="#">testCraig</a>	03-MAR-2011 14:31	
<a href="#">test1</a>	03-MAR-2011 16:10	
<a href="#">test2</a>	03-MAR-2011 16:16	

Catalogue: MID TIPP MART

Euro-Star Listing Catalogue

**MID TIPP MART**

Order	Lot No.	Animal Number	Animal Name	Birth Date	Sire	Dam	Breed
1	419	IE331416221259		19-FEB-15	S2016	IE331416250998	HE
2	408D	IE341028080970		30-JAN-15	IE341042860401	IE341041960889	CH
3	408C	IE341028040967		31-JAN-15	IE341028030925	IE341038620819	LM
4	408A	IE341021881000		10-MAR-15	IE211344320630	IE211113980218	LM
5	418C	IE331093270304		27-OCT-14	KSG	IE331151950375	HE
6	418C	IE151518191408		29-MAR-14	IE211134670521	IE151518190888	HE
7	418B	IE341460311749		13-FEB-15	KYA	IE341460311369	AA
8	418A	IE341024350535		08-MAR-15	IE341039560623	IE341086221084	SA
9	418A	IE341024370537		08-MAR-15	IE341039560623	IE341125490550	SA
10	418	IE341024310548		10-MAY-15	IE341039560623	IE341292430261	SA
11	418	IE341024370545		04-APR-15	IE341039560623	IE341024380496	SA
12	418	IE341024390547		10-APR-15	IE341039560623	IE241645860344	SA
13	417B	IE341024360544		31-MAR-15	IE341039560623	IE341024390472	SA
14	417B	IE341024320540		19-MAR-15	IE341039560623	IE341024330459	SA
15	424	IE331416940883		17-JAN-15	BBQ	IE331416910542	BB
16	302	IE331356110886		21-FEB-16	IE331471010083	IE331356160676	LM
17	302	IE331356170882		18-FEB-16	IE331471010083	IE331356120581	LM

# Mart Euro-Star Catalogue

 <b>€uro-Stars Listing</b> (21/03/2016) 											
Animal Details							Replacement Index			Extra Details	
Lot	Tag	Date of Birth	Sex	Calvings	Breed	Sire	Dam's Sire	Index	Euro-Stars		
									Across Breed		
302	IE331356110886	21-Feb-16	F	-	50% LM 47% HO 3% FR	IE331471010083 (FAIRYHILL IGGY)	-	€117	★ ★ ★ ★ ★	Owner J HASSETT,KILLOSKEHANE	
303	IE331356170883	18-Feb-16	F	-	50% LM 41% HO 6% FR	IE331471010083 (FAIRYHILL IGGY)	-	€104	★ ★ ★ ★ ★	Owner J HASSETT,KILLOSKEHANE	
404	IE341410760434	20-May-15	F	-	81% LM 13% SI	IE341422470441 (MELWOOD HUNTER)	-	€89	★ ★ ★ ★	Owner J ALLIS,HOLLYFORD	
404	IE341410740432	21-Mar-15	F	-	88% LM 9% HE	IE341422470441 (MELWOOD HUNTER)	IE341397030106 (DRUMWOOD SAMMY)	€109	★ ★ ★ ★ ★	Owner J ALLIS,HOLLYFORD	
404	IE341410760418	12-Jan-15	F	-	50% JE 38% LM 9% HO	KGB (KONUI GLEN ELMOS BOW)	IE331317511263 (CLONSORRELL DENIS)	€167	★ ★ ★ ★ ★	Owner J ALLIS,HOLLYFORD	
404	IE341410770427	10-Mar-15	F	-	88% LM 9% HE	IE341422470441 (MELWOOD HUNTER)	IE341397030106 (DRUMWOOD SAMMY)	€85	★ ★ ★ ★	Owner J ALLIS,HOLLYFORD	
404	IE341410730431	16-Mar-15	F	-	88% LM 6% HO 6% SI	IE341422470441 (MELWOOD HUNTER)	IE341397030106 (DRUMWOOD SAMMY)	€115	★ ★ ★ ★ ★	Owner J ALLIS,HOLLYFORD	
404B	IE341410750425	06-Mar-15	F	-	72% LM 19% HO	IE341422470441 (MELWOOD HUNTER)	-	€103	★ ★ ★ ★ ★	Owner J ALLIS,HOLLYFORD	
404C	IE341410790429	12-Mar-15	F	-	72% LM 25% PT 3% HE	IE341422470441 (MELWOOD HUNTER)	IE151343380326 (ALAMIRA FERRARI)	€90	★ ★ ★ ★	Owner J ALLIS,HOLLYFORD	
405B	IE331219590758	03-Jan-15	F	-	75% LM 22% SH	IE331405110569 (BARRONSTOWN)	-	€74	★ ★ ★ ★	Owner T MCLOUGHLIN,KNOCKERAVOOLA	

The ICBF 'Animal Search' facility on the ICBF website ([www.icbf.com](http://www.icbf.com)) is where you can find out the most up-to-date Euro-Star/EBI figures

- Can now search for **Female animals.**
- Only Females from a HerdPlus or BDGP herd can be accessed.
- Indexes are updated by ICBF three times per year; **April, August & December**

## Step 1

Enter [www.icbf.com](http://www.icbf.com) into your internet address bar.



## Step 2

Go to the 'Animal Search' and enter the tag number or AI Code of any animal and click 'search'. That animal's most up-to-date Euro-Star/EBI figures will then be shown.

# Question Time



**Thank You**

