Cattle Breeding Using Millions of Records from Commercial Cattle: An Irish Perspective

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Agriculture and Food Development Authority

BIF, Dec 2023

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Dairy Industry

- 1.6 million dairy cows
- 18,000 Herds
- Avg herd size: 80 cows
- ~93% Holstein-Friesian
- Seasonal grass based
- Export 90% milk

- **Economic Breeding Index**
- **Dairy-beef index**

Beef Industry

- 0.91 million beef cows
- 100,000 Herds
- Avg herd size: 40 cattle
- Continental Crossbreds
- Seasonal grass based
- Export 90% beef

- **Replacement Index**
- **Terminal Index**

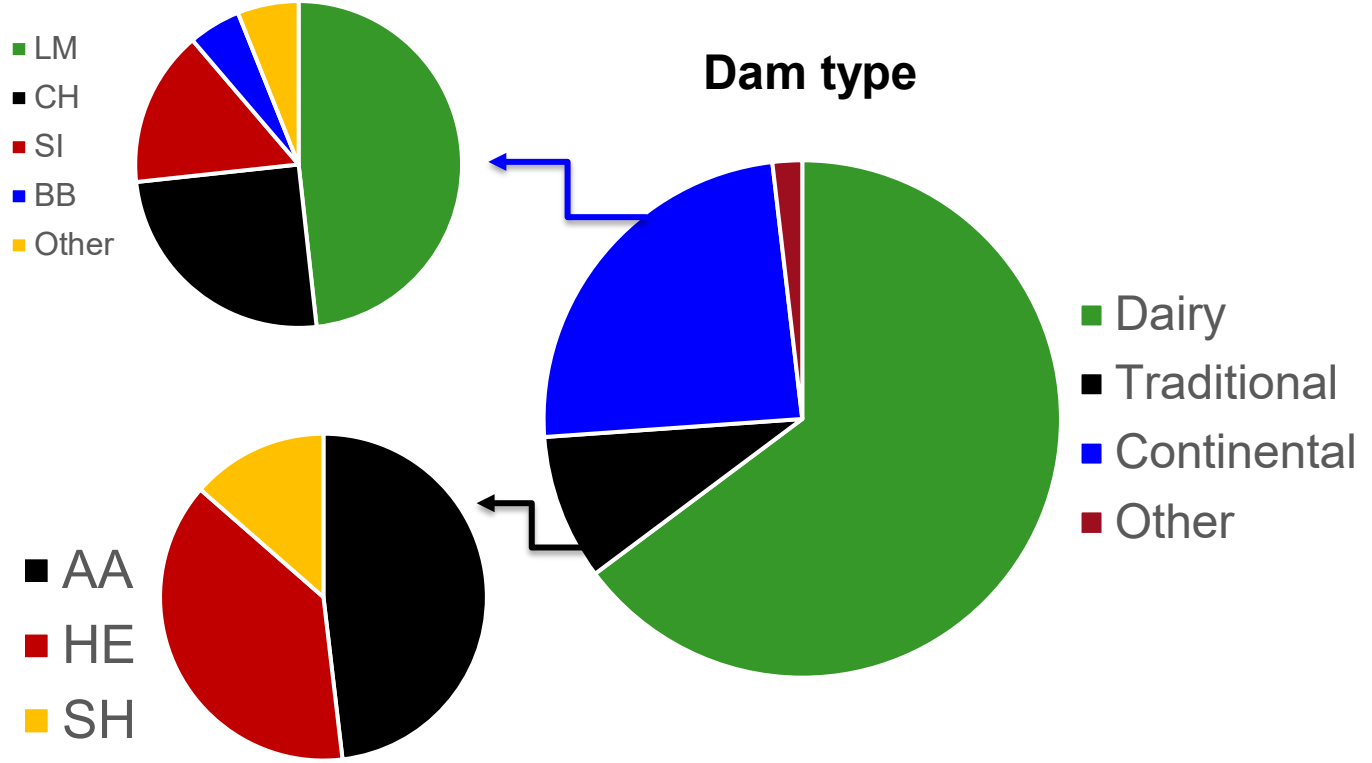
Sheep Industry

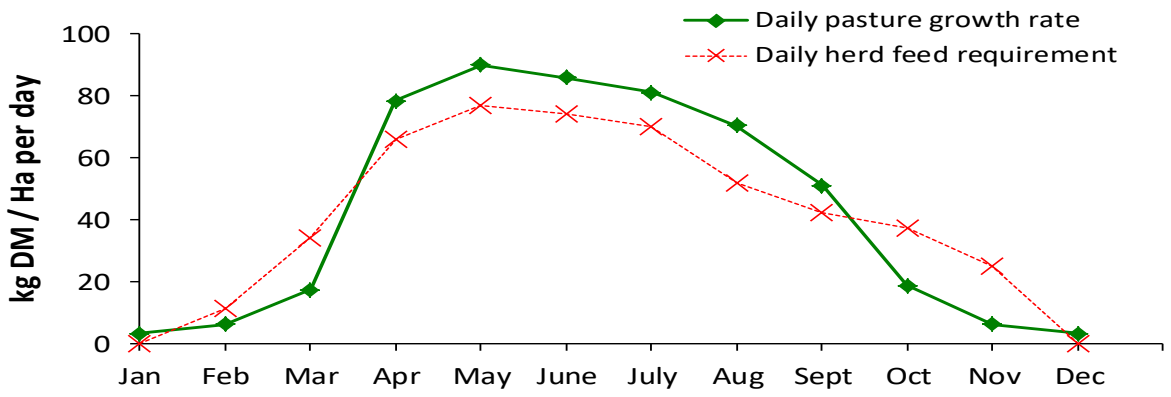
- 2.6 million ewes
- 13,000 Herds
- Avg herd size: 133 ewes
- Crossbred
- Seasonal grass based
- Export 70% sheep meat

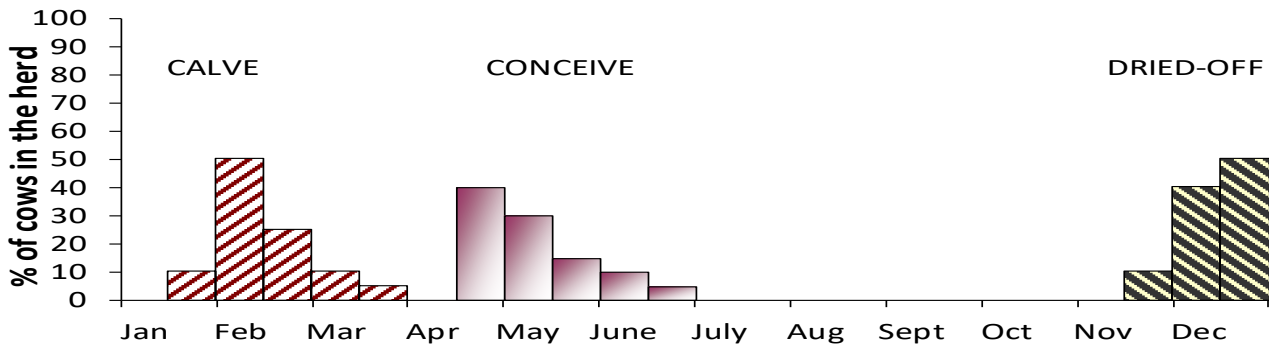
- **Replacement Index**
- **Terminal Index**

Irish beef industry

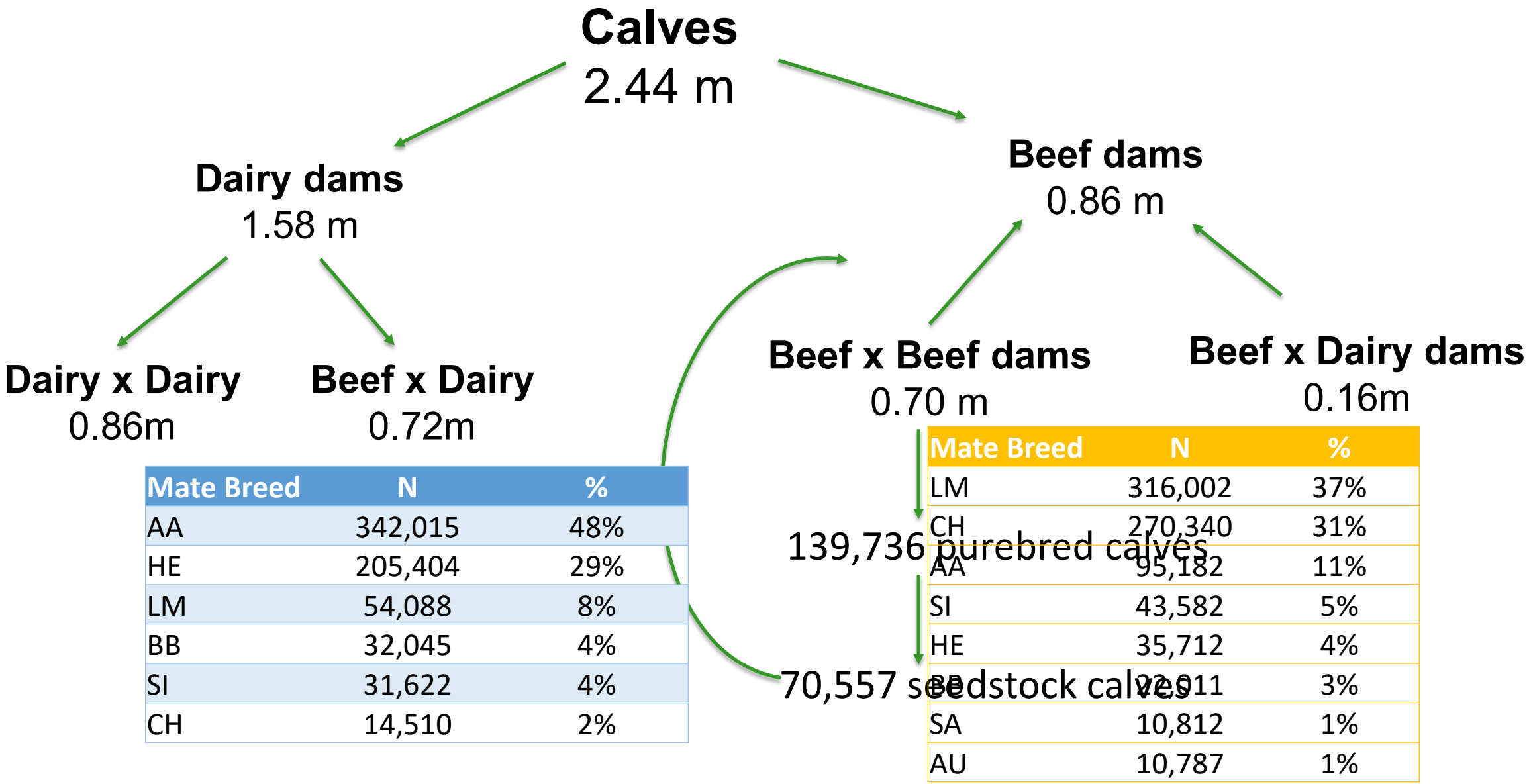
- 6.5 million cattle







Irish cattle population (2022)



Mate Breed	N	%
AA	342,015	48%
HE	205,404	29%
LM	54,088	8%
BB	32,045	4%
SI	31,622	4%
CH	14,510	2%

Mate Breed	N	%
LM	316,002	37%
CH	270,340	31%
AA	95,182	11%
SI	43,582	5%
HE	35,712	4%
BB	22,911	3%
SA	10,812	1%
AU	10,787	1%

Why across breed evaluation?

1. Genetic (→phenotypic) evaluations for commercial (crossbred) cattle
   - All animals!!
   - Crossbred (dairy) calves
2. Compare alternative breeds – choose the best bull and not the best bull per breed
3. Simple – one evaluation for each bull – one breeding objective
4. Facilitates crossbreeding programs
5. Exploits crossbred data
6. Increased accuracy of selection and selection intensity → genetic gain
7. Less GxE effect (i.e., more robust)

- **Downsides**
  - Political….
  - Assumes genetic correlations the same across breeds/environments
  - …….

Level playing field

Star Rating (within Charolais breed)	Economic Indexes	Purpose	€uro value	Index reliability	Star Rating (across all beef breeds)
★	Replacement (per daughter lactation)	To breed future cows for the suckler herd	- €65	98% (V High)	★
★	Terminal	To breed beef animals from the suckler herd that are destined for finishing	€85	96% (V High)	★★★
★	Dairy Beef	To breed beef animals from the dairy herd that are destined for finishing	- €121	95% (V High)	★

Calving Difficulty (births requring considerable assistance; % 3 & 4)		
When Mated With:	Value	Reliability
Beef Heifers Breed avg: 10.28%, All breeds avg: 7.68%	16.6%	98% (V High)
Beef Cows Breed avg: 4.92%, All breeds avg: 3.60%	7.5	

Star Rating (within Charolais breed)	Key profit traits	Index value	Trait reliability	Star Rating (across all beef breeds)
Expected progeny performance				
★★	Gestation (days) Breed avg: 2.70, All breeds avg: 2.54	3.05 days	99% (V High)	★★
★★★★★	Docility (1-5 scale) Breed avg: 0.04, All breeds avg: 0.02	0.08 scale	99% (V High)	★
★★★★	Age at finish (days) Breed avg: -1.47, All breeds avg: -1.39	-2.24 days	99% (V High)	★★★★
★	Carcass weight (kg) Breed avg: 34.85kg, All breeds avg: 17.58kg	28.6kg		
★★★★	Carcass conformation (1-15 scale) Breed avg: 1.92, All breeds avg: 1.47	2.04 scale	99% (V High)	★★★★★

Star Rating (within Angus breed)	Economic Indexes	Purpose	€uro value	Index reliability	Star Rating (across all beef breeds)
★★★★	Replacement (per daughter lactation)	To breed future cows for the suckler herd	€128	90% (V High)	★★★★★
★★★★★	Terminal	To breed beef animals from the suckler herd that are destined for finishing	€94	90% (V High)	★★★
★★★★★	Dairy Beef	To breed beef animals from the dairy herd that are destined for finishing	€156	91% (V High)	★★★★★

www.icbf.com

When Mated With:	Value	Reliability
Beef Heifers Breed avg: 4.60%, All breeds avg: 7.68%	3.1%	98% (V High)
Beef Cows Breed avg: 1.90%, All breeds avg: 3.60%	1.0%	96% (V High)

Within & across breed stars

Star Rating (within Angus breed)	Key profit traits	Index value	Trait reliability	Star Rating (across all beef breeds)
Expected progeny performance				
★★★★★	Gestation (days) Breed avg: -0.36, All breeds avg: 2.54	-1.92 days	99% (V High)	★★★★★
★★★★★	Docility (1-5 scale) Breed avg: 0.01, All breeds avg: 0.02	0.06 scale	98% (V High)	★★★★
★★★★★	Age at finish (days) Breed avg: -11.19, All breeds avg: -1.39	-16.88 days	98% (V High)	★★★★★
		5.9kg	99% (V High)	★
★★★★★	Carcass conformation (1-15 scale) Breed avg: 0.70, All breeds avg: 1.47	1.03 scale	99% (V High)	★★

Units of measure

Comparable with herd (crossbred) evaluations

What's needed

- **Technical**
  - ….data, pedigree, computing resources….
  - Good genetic/breed diversity within contemporary groups
  - Breed composition information (genotypes)
  - Strong genetic correlations between the same trait in different breeds (and crossbreds)

- **Political**
  - Industry buy-in
  - Common way of displaying
  - Standardisation of trait definition (ideally)

Factors contributing to “success”

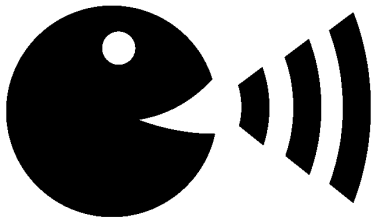
Infrastructure

Goal

Recording

Genetic evaluations

Integration



Single voice


Cheers™

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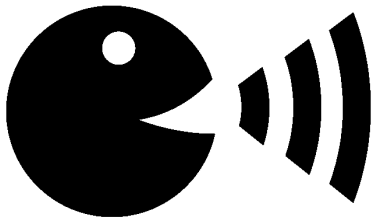

Single voice


Independence

Row develops in pedigree breeders council over ICBF changes

Adam Woods has news of escalating tensions between the Irish Aberdeen Angus Association and the pedigree breeders council.

Suckler farmers have their say on ICBF indexes

Adam Woods has the results of an Irish Farmers Journal farmer survey completed over the weekend

Saturday 9 December 2023

Pressure mounts on ICBF to row back on index changes

ADAM WOODS
BEEF AND SUCKLER EDITOR
awoods@farmersjournal.ie

Pressure is mounting this week on the Irish Cattle Breeding Federation (ICBF) to row back on some of the changes made to the terminal and replacement suckler indexes last week.

The changes went live on 28 November, with many farmers only realising this week how they affect their herds. The Simmental and Belgian Blue breeds have been hit hardest and many suckler farmers with Belgian Blue or Simmental breeding in their cows have seen individual cow's indexes drop in their herds.

The Roscommon IFA county executive has sent a motion of no confidence in the IFA members on the ICBF board to be discussed at the next national council meeting of the IFA.

Speaking to the *Irish Farmers Journal*, Roscommon IFA chair Pat Leonard said: "We are calling on the four IFA nominees on the ICBF board to resign their positions unless changes are made to the indexes or SCEP requirements."

The *Irish Farmers Journal* understands that other IFA county executives are contemplating a similar approach to force changes. It is understood a heated discussion took place between the IFA livestock committee and ICBF CEO Seán Coughlan at its committee meeting on Wednesday. The ICSA, having originally met ICBF before the changes were implemented, were assured by ICBF at that meeting that changes would be minimal.

This week, however, ICSA president Dermot Kelleher said: "Many of our members have grave concerns about their future in SCEP and these concerns will have to be addressed."

The Irish Simmental Cattle Society has urged its members to contact TDs and senators to express their discontent at the index changes.

Irish Simmental Cattle Society secretary, Peadar Glennon, said: "Feedback received from both commercial suckler farmers and pedigree breeders is highlighting how the value of their herds has been decimated and will no doubt affect their future viability.

"Our analysis indicates that the model on which these latest evaluations is based is flawed and that oversight appears to be missing. A reversal to the evaluations in place prior to 28 November as an interim solution must take place, followed by an independent audit of ICBF evaluations."

Not all plain sailing?!?

Pedigree breeders disappointed with 'silence' of the ICBF board members

Farm organisation reaction to index change

'ICBF trying to wreak havoc with sucklers'

Adam Woods takes a look at some of the farmer comments on this week's farmer survey

Factors contributing to success

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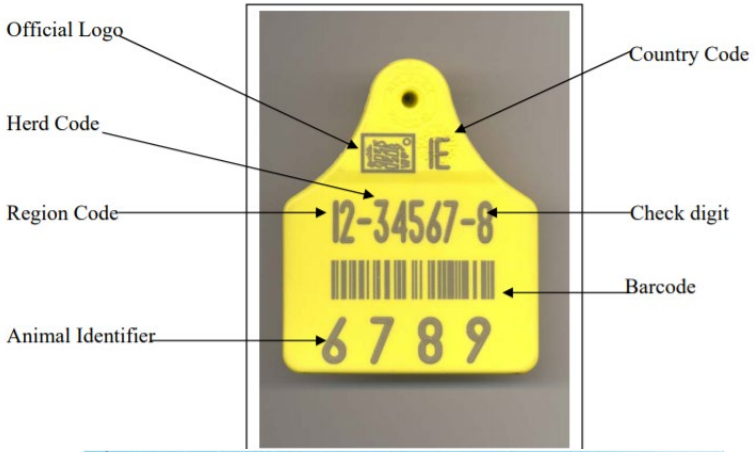
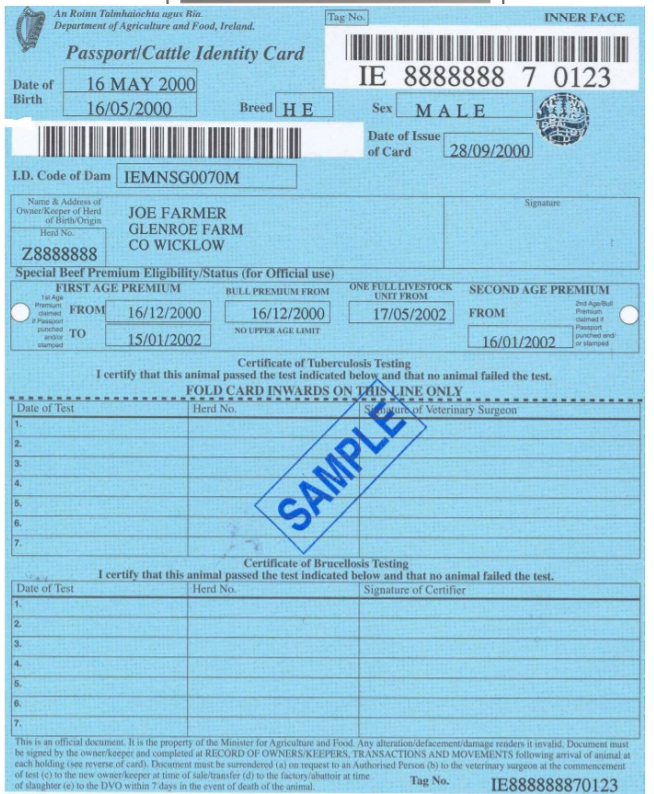
Identification system

- **A single unique life-long identification**
- Compulsory to record
  - Dam ID
  - Gender
  - All births
  - All deaths
  - All inter-location movements




An Roinn Talmhaíochta agus Rín.
Department of Agriculture and Food, Ireland.

Passport/Cattle Identity Card

INNER FACE

Tag No. IE 8888888 7 0123

Date of Birth: 16 MAY 2000 / 16/05/2000 — Breed: H E — Sex: M A L E

Date of Issue of Card: 28/09/2000

I.D. Code of Dam: IEMNSG0070M

Name & Address of Owner/Keeper of Herd of Birth/Origin: JOE FARMER, GLENROE FARM, CO WICKLOW

Herd No.: Z8888888

Signature

Special Beef Premium Eligibility/Status (for Official use)

FIRST AGE PREMIUM	BULL PREMIUM FROM	ONE FULL LIVESTOCK UNIT FROM	SECOND AGE PREMIUM
FROM 16/12/2000	16/12/2000	17/05/2002	FROM 16/01/2002
TO 15/01/2002	NO UPPER AGE LIMIT		

Certificate of Tuberculosis Testing
I certify that this animal passed the test indicated below and that no animal failed the test.
FOLD CARD INWARDS ON THIS LINE ONLY

Date of Test	Herd No.	Signature of Veterinary Surgeon
1.		
2.		
3.		
4.		
5.		
6.		
7.		

SAMPLE

Certificate of Brucellosis Testing
I certify that this animal passed the test indicated below and that no animal failed the test.

Date of Test	Herd No.	Signature of Certifier
1.		
2.		
3.		
4.		
5.		
6.		
7.		

This is an official document. It is the property of the Minister for Agriculture and Food. Any alteration/defacement/damage renders it invalid. Document must be signed by the owner/keeper and completed at RECORD OF OWNERS/KEEPERS, TRANSACTIONS AND MOVEMENTS following arrival of animal at each holding (see reverse of card). Document must be surrendered (a) on request to an Authorised Person (b) to the veterinary surgeon at the commencement of test (c) to the new owner/keeper at time of sale/transfer (d) to the factory/abattoir at time of slaughter (e) to the DVO within 7 days in the event of death of the animal.

Tag No. IE888888870123

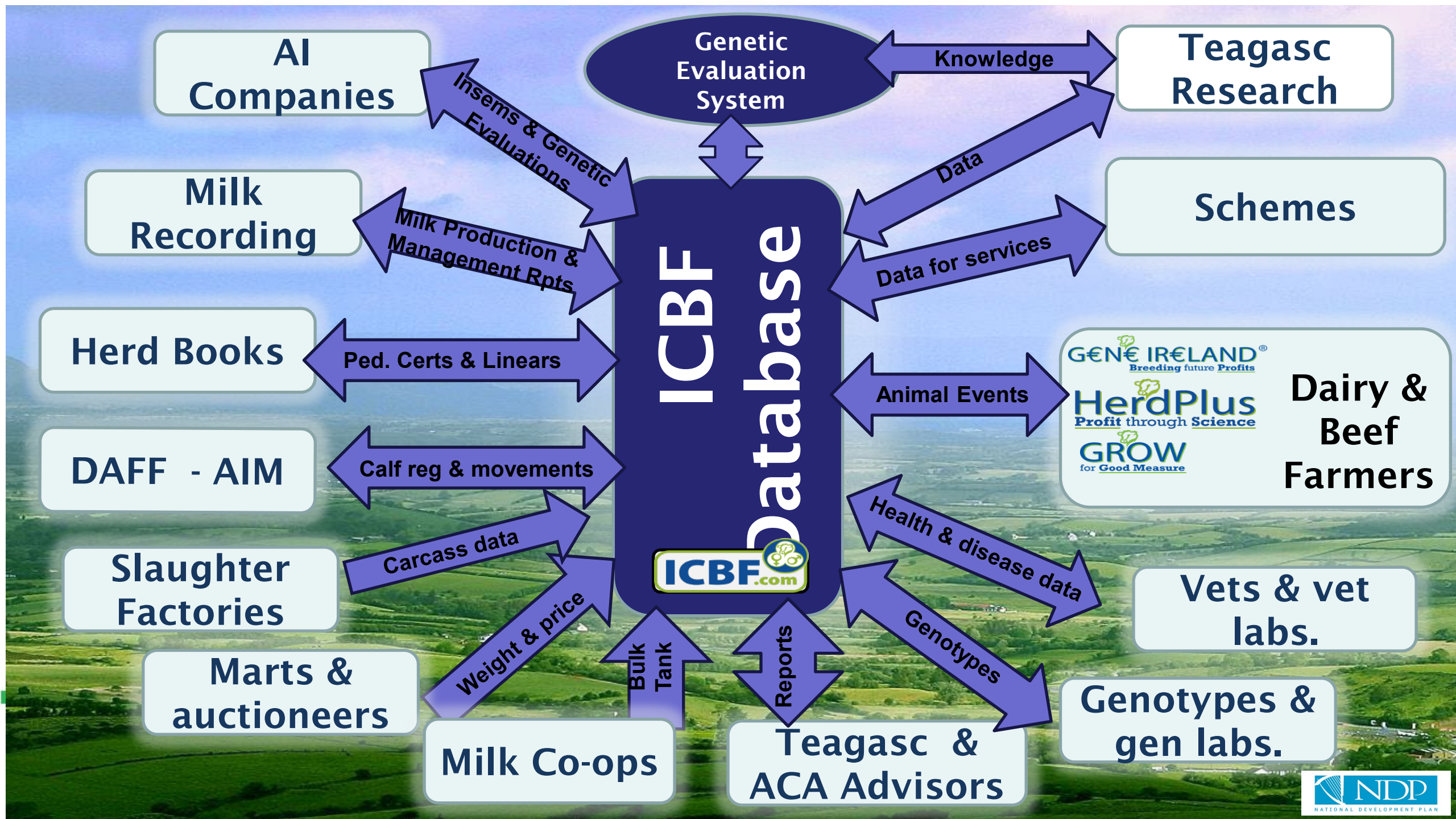
Irish Cattle Breeding Federation

- Co-operative established in 2000
- 80 staff servicing 100,000 farmers

Organisation	Share %	Members
Farm organisations	46	6
AI services	18	3
Milk recording	18	3
HerdBooks	18	3
Dept Agric	0	1

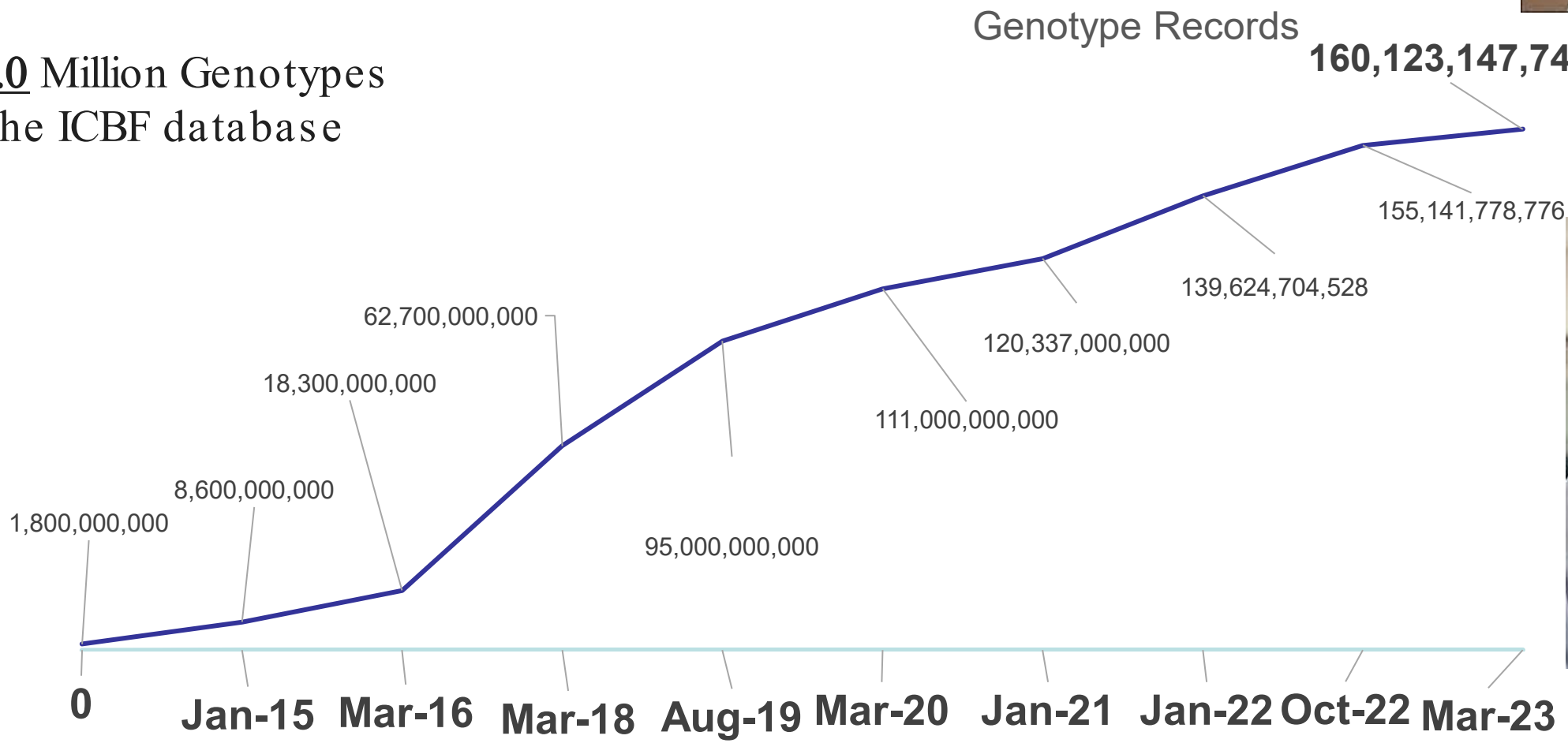
- **Objective – ensure the next generation of animals are better than the previous**
- Independent genetic evaluations for farmers & industry
- Data sharing for a common good
  - ICBF do not own animals
  - No conflict of interest

Agriculture and Food Development Authority

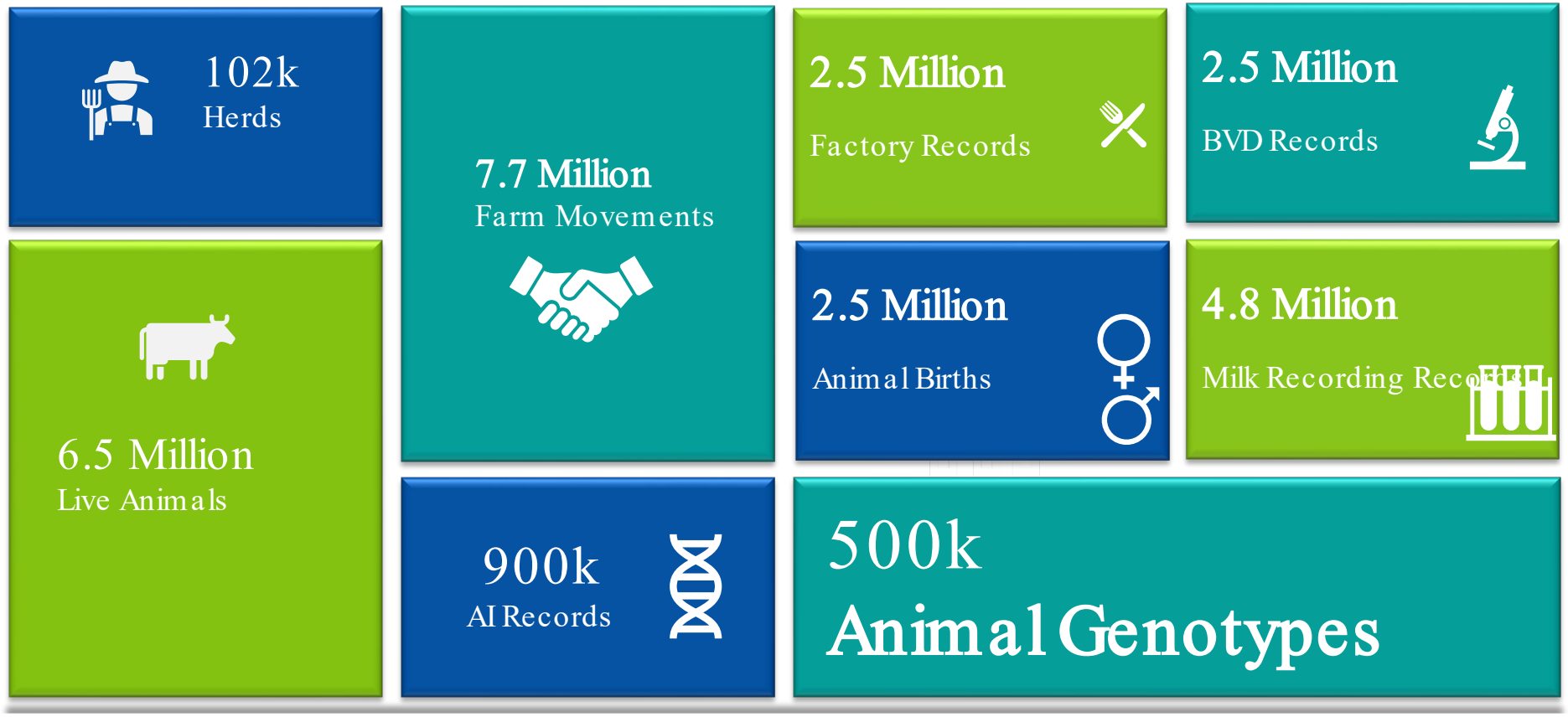

AI Companies
Insems & Genetic Evaluations
Genetic Evaluation System
Knowledge
Teagasc Research
Milk Recording
Milk Production & Management Rpts
Data
Schemes
Data for services
ICBF Database
Herd Books
Ped. Certs & Linears
Animal Events
GENE IRELAND Breeding future Profits
HerdPlus Profit through Science
GROW for Good Measure
Dairy & Beef Farmers
DAFF - AIM
Calf reg & movements
Carcass data
Health & disease data
Slaughter Factories
ICBF.com
Vets & vet labs.
Weight & price
Bulk Tank
Reports
Genotypes
Marts & auctioneers
Genotypes & gen labs.
Milk Co-ops
Teagasc & ACA Advisors
NDP NATIONAL DEVELOPMENT PLAN

Genotype Data Sets

~**3.0** Million Genotypes
in the ICBF database



ICBF annual statistics



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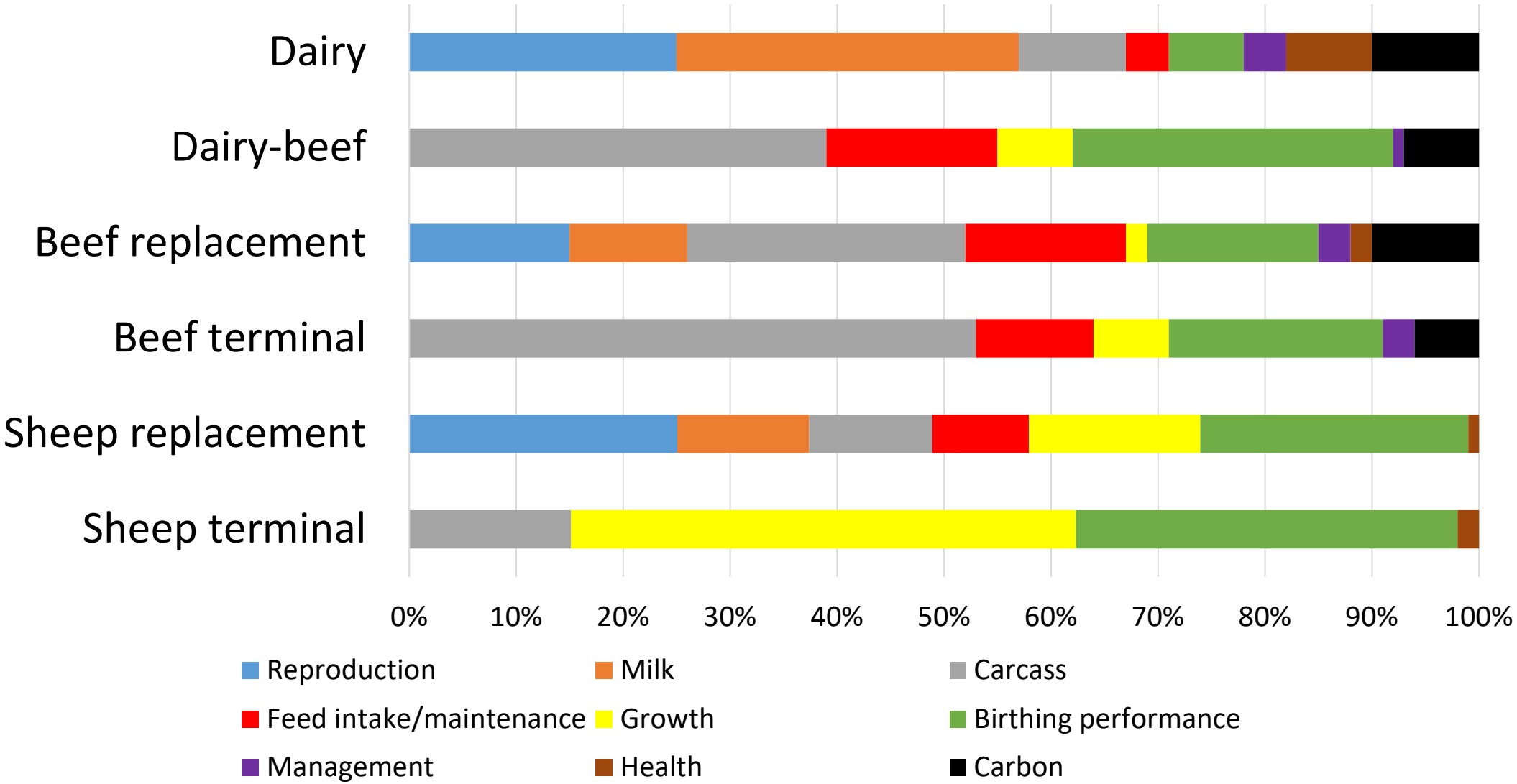
Single voice

National breeding goals



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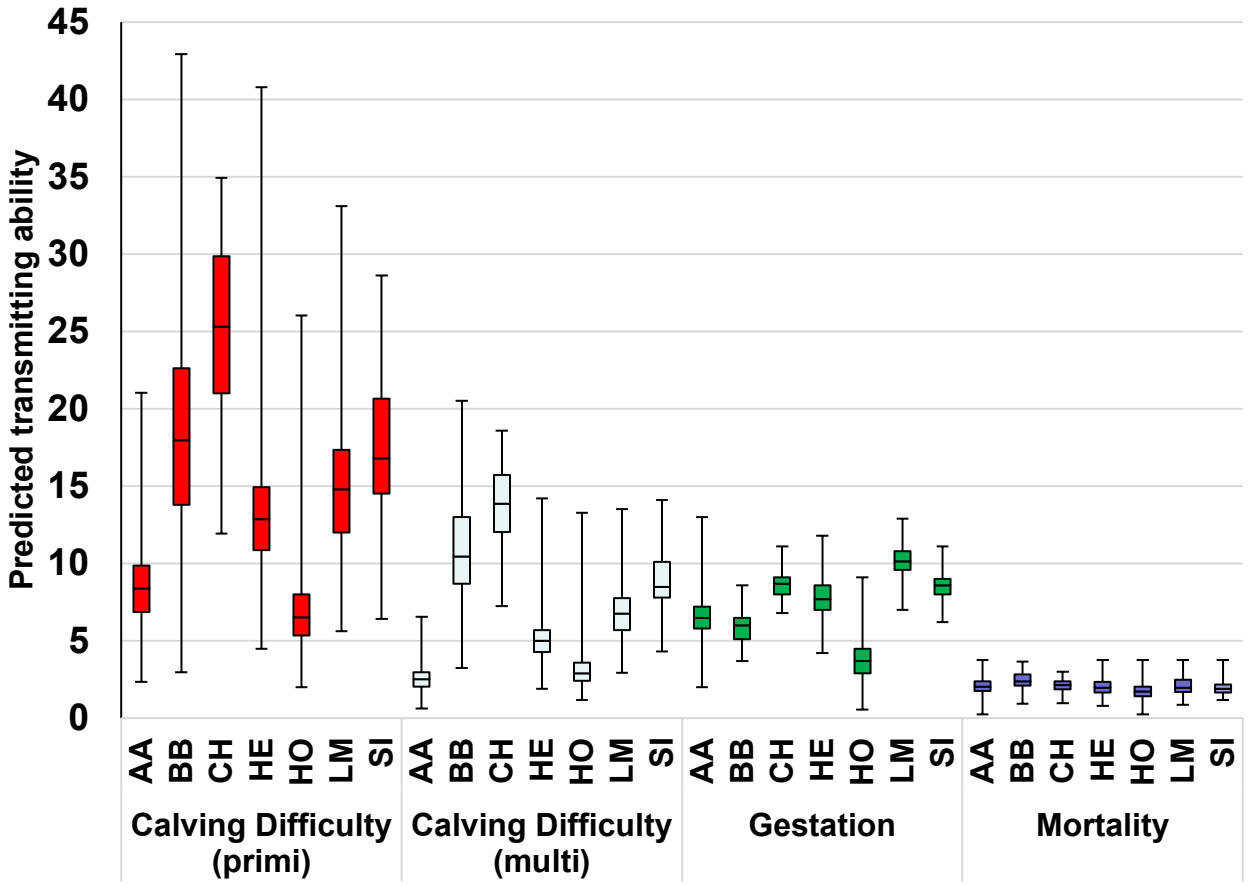
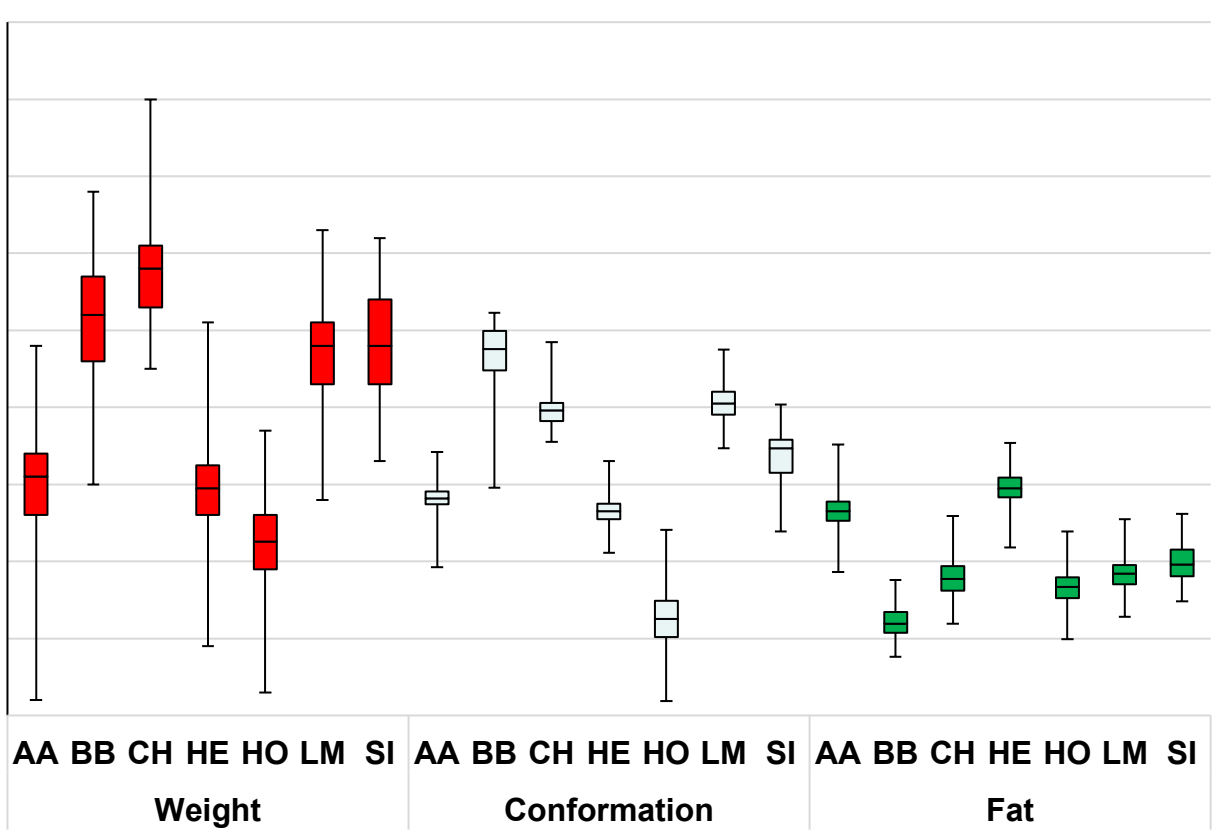
★★★	Carcass weight (kg) Breed avg: 6.98kg, All breeds avg: 17.58kg	5.9kg	99% (V High)	★
★★★★★	Carcass conformation (1-15 scale) Breed avg: 0.70, All breeds avg: 1.47	1.03 scale	99% (V High)	★★

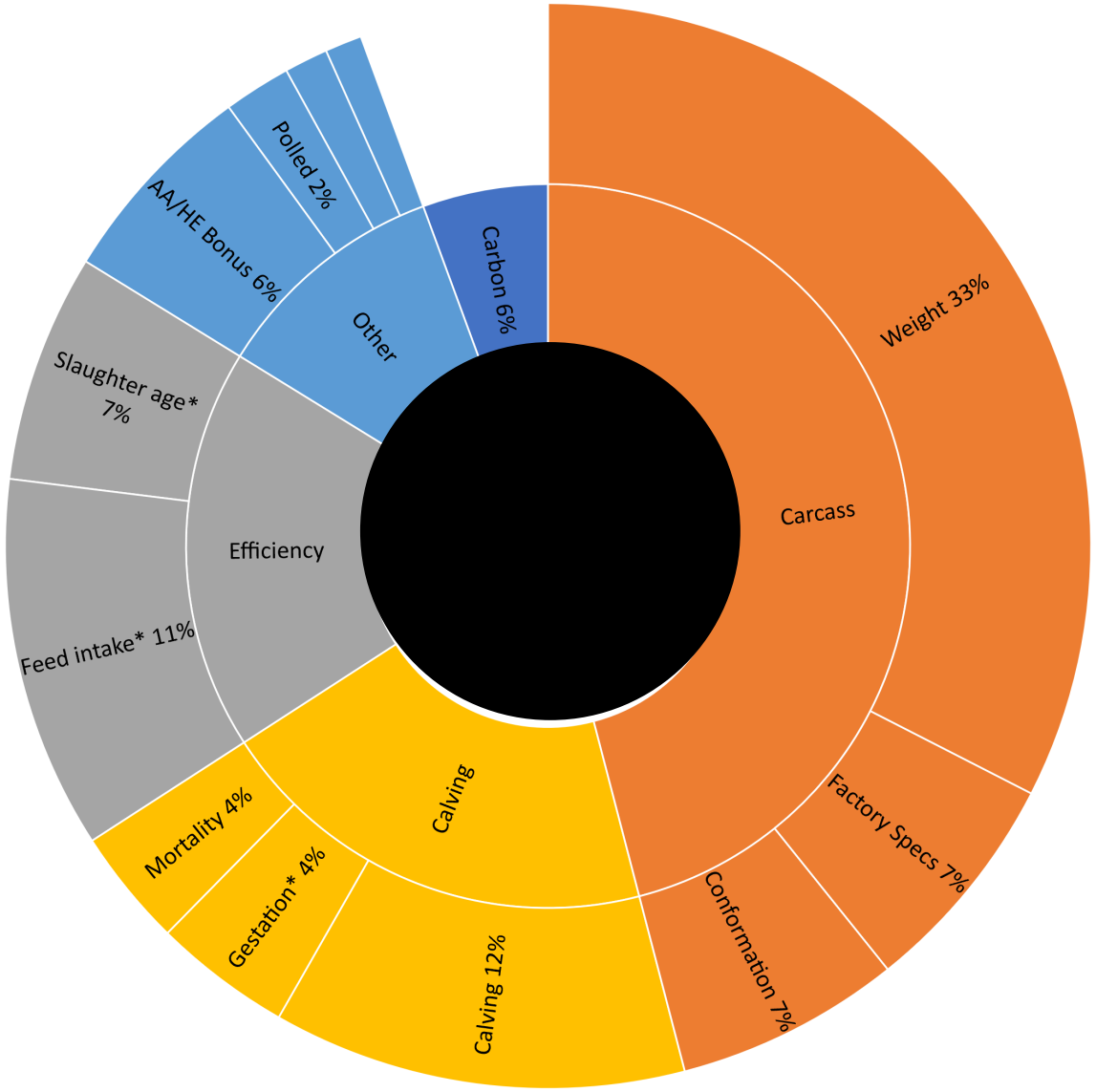
Exploitation of within-breed & across breed variability



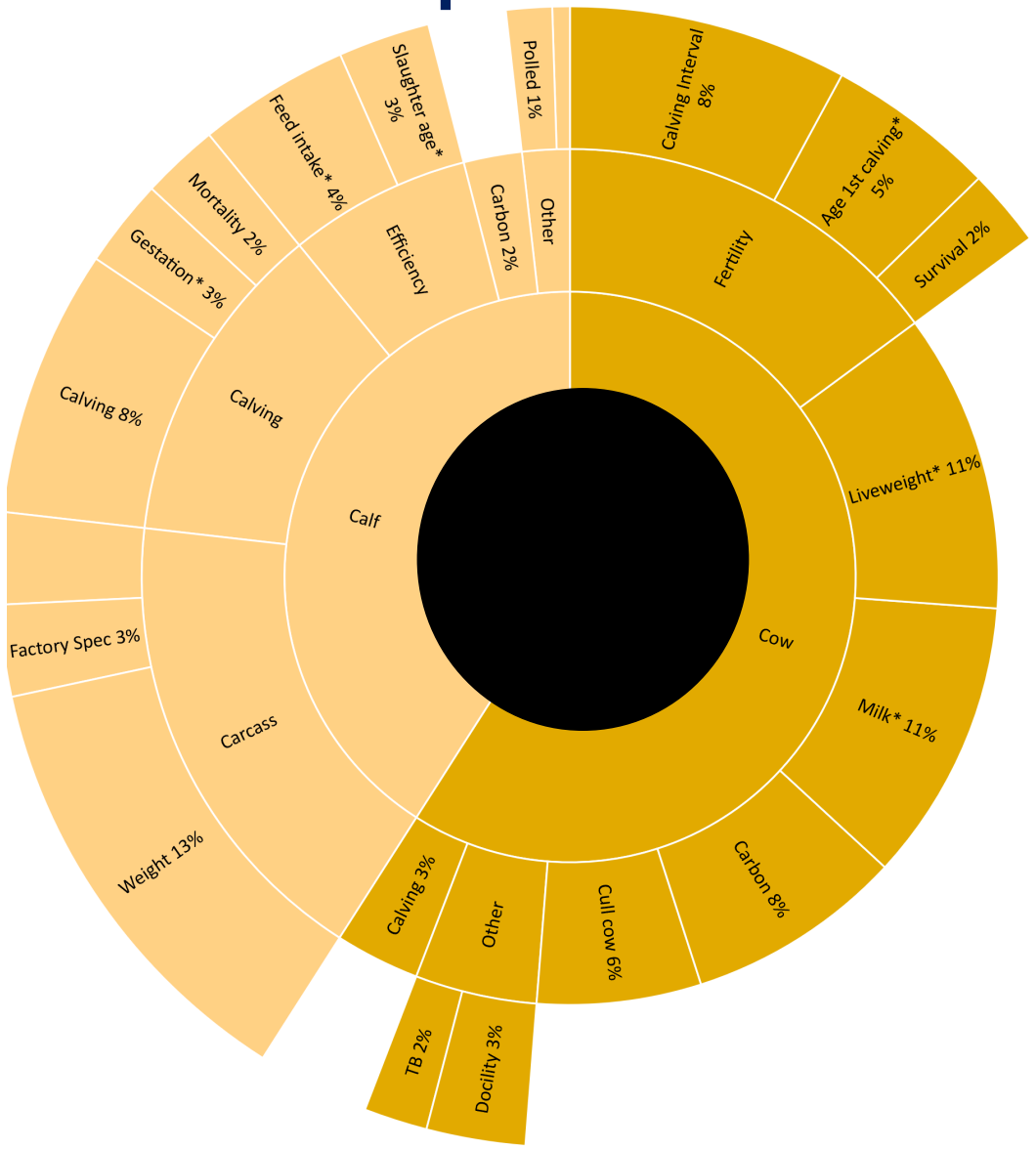


Beef national breeding objectives

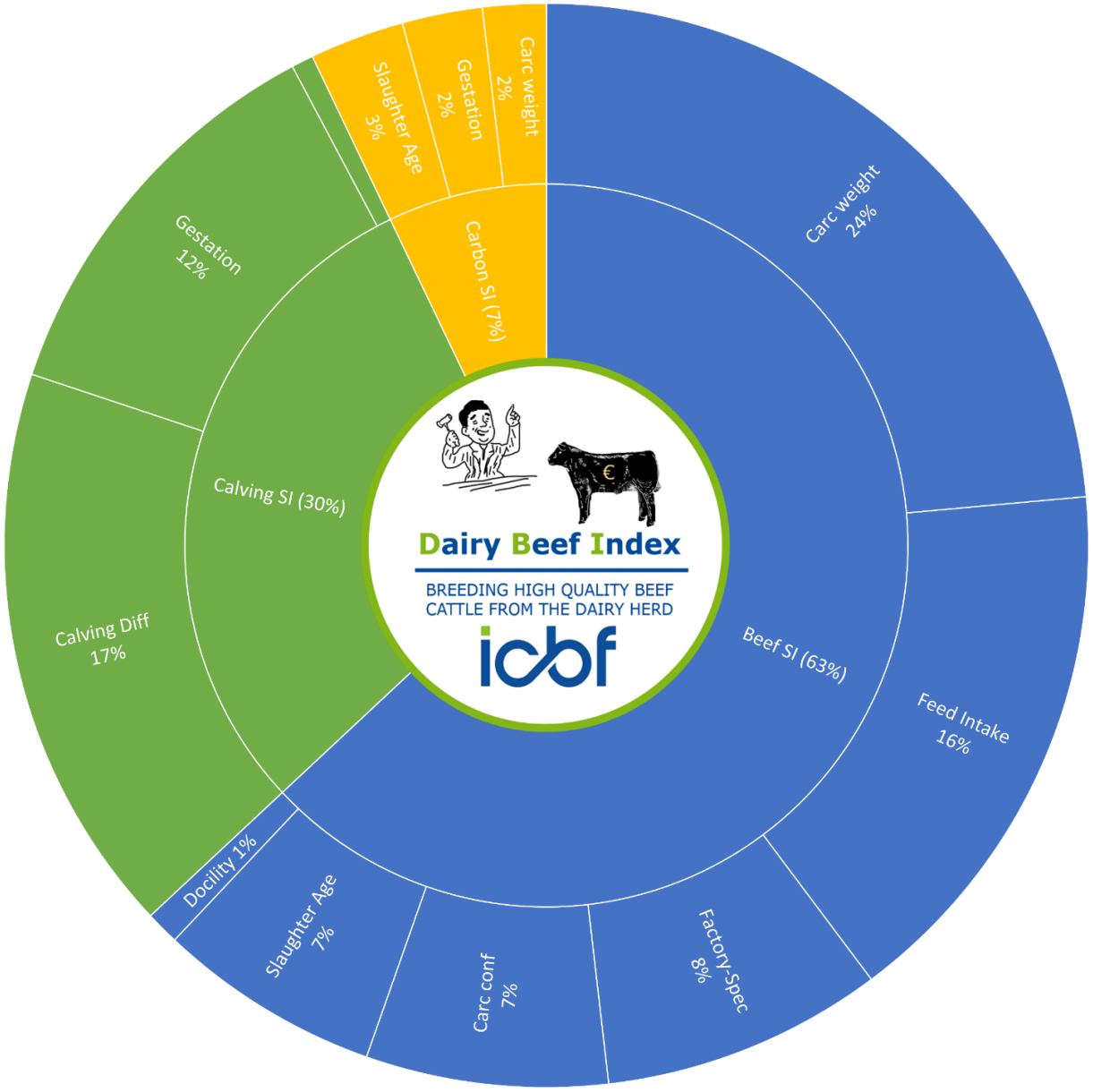
Terminal



Replacement



Dairy-Beef national index



Carbon in the breeding indexes

- Absolute carbon emissions
  - Framework to deploy methane genetic evaluations
  - Assumed carbon price; €80/t
- Example: **age at slaughter**
  - All else being equal, earlier slaughter → less carbon + plus lower costs

Production economic value €/d	Carbon Output (kg/d)	Carbon economic value (€/d)	Combined economic value (€/d)
-1.35	**+5.40**	**-0.43**	**-1.78**

Factors contributing to success

Infrastructure

Goal

Recording

Genetic evaluations

Integration

Single voice

Data recording schemes

Suckler cow efficiency programme

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

Provides support to beef farmers to improve the environmental sustainability of the national beef herd

Dairy Beef Welfare Scheme

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

To facilitate further the integration of the dairy and beef sectors by providing support for farmers who are rearing progeny from the dairy herd

- Payments
  - €20 per calf up to 50 calves
- Conditions
  - Calves from a beef sire born to a dairy dam or a dairy male
  - >12 weeks of age
  - Weight the animal once

Data recording schemes

National Beef Welfare Scheme

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

Enhance animal health and husbandry on beef farms while increasing efficiency

- Payments
  - €120-€300 per herd depending on size for IBR
  - €35/hd for concentrate feeding (up to 40 calves)
- Conditions
  - IBR testing
  - Feeding of concentrates 4 weeks prior to 2 weeks post weaning

Producer v professional - subjective measures

Animal (2012), **6:9**, pp 1389–1397 © The Animal Consortium 2012
doi:10.1017/S1751731112000705

animal

Genetic relationships between carcass cut weights predicted from video image analysis and other performance traits in cattle

T. Pabiou[1,2†], W. F. Fikse[2], P. R. Amer[3], A. R. Cromie[1], A. Näsholm[2] and D. P. Berry[4]

Farmer scored
h^2=0.32

Table 3 *Genetic correlations (standard errors in brackets) between carcass cut weights (kg – at constant carcass weight) and carcass value (€ – at constant live weight), auction prices for calves (€), weanlings (€ – at constant live weight) and post-weanlings (€ – at constant live weight), live weight (kg) and weanling quality (score 1 to 5)*

Trait	Total meat weight	Total fat weight	Total bone weight	Lower value cuts weight	Medium value cuts weight	High value cuts weight	Very high value cuts weight
Carcass value	0.45 (0.03)	−0.38 (0.05)	−0.72 (0.03)	0.38 (0.05)	0.35 (0.04)	0.52 (0.03)	0.69 (0.03)
Calves auction price	0.26 (0.07)	−0.23 (0.09)	−0.35 (0.07)	0.45 (0.08)	0.38 (0.07)	0.34 (0.07)	0.38 (0.07)
Weanling auction price	0.49 (0.11)	−0.39 (0.16)	−0.45 (0.13)	0.41 (0.14)	0.66 (0.10)	0.37 (0.11)	0.55 (0.12)
Post-weanling auction price	0.68 (0.08)	−0.67 (0.12)	−0.32 (0.13)	0.61 (0.11)	0.50 (0.11)	0.65 (0.08)	0.67 (0.10)
Live weight at weaning							
Direct	−0.13 (0.10)	−0.10 (0.14)	0.10 (0.12)	−0.03 (0.12)	−0.34 (0.11)	−0.07 (0.10)	0.01 (0.12)
Maternal	−0.01 (0.11)	−0.13 (0.15)	0.10 (0.13)	−0.16 (0.13)	0.07 (0.12)	−0.01 (0.11)	−0.01 (0.13)
Live weight at post-weaning	0.08 (0.08)	−0.12 (0.12)	0.09 (0.09)	−0.07 (0.10)	0.14 (0.08)	0.04 (0.08)	−0.02 (0.10)
Weanling quality	0.39 (0.08)	−0.31 (0.12)	−0.30 (0.10)	0.33 (0.10)	0.12 (0.09)	0.28 (0.08)	0.49 (0.09)

Professionally scored
h^2=0.24-0.26

Table 4 *Genetic correlations (standard errors in brackets) between carcass cut weights (kg – at constant carcass weight) and linear traits recorded at weaning and post-weaning age (scores 1 to 10/15)*

Maturity group	Trait	Total meat weight	Total fat weight	Total bone weight	Lower value cuts weight	Medium value cuts weight	High value cuts weight	Very high value cuts weight
Weaning	Height at withers	−0.25 (0.11)	0.08 (0.17)	0.68 (0.10)	0.09 (0.14)	−0.58 (0.11)	−0.09 (0.12)	−0.06 (0.14)
	Length of back	−0.22 (0.12)	0.23 (0.17)	0.51 (0.13)	−0.12 (0.15)	−0.51 (0.12)	−0.09 (0.13)	−0.10 (0.15)
	Length of pelvis	−0.26 (0.15)	0.02 (0.21)	0.44 (0.17)	−0.28 (0.18)	−0.56 (0.14)	−0.20 (0.15)	−0.20 (0.18)
	Width at withers	0.32 (0.14)	−0.34 (0.20)	−0.28 (0.17)	0.44 (0.16)	−0.38 (0.15)	0.25 (0.15)	0.63 (0.14)
	Width behind withers	0.13 (0.13)	−0.17 (0.19)	−0.37 (0.16)	0.18 (0.16)	−0.33 (0.14)	0.10 (0.13)	0.43 (0.15)
	Loin development	0.29 (0.15)	−0.11 (0.21)	−0.46 (0.17)	0.26 (0.17)	−0.47 (0.15)	0.09 (0.15)	0.50 (0.15)
	Hindquarter development	0.42 (0.10)	−0.28 (0.16)	−0.41 (0.12)	0.32 (0.13)	−0.06 (0.12)	0.38 (0.11)	0.46 (0.12)

Contribution of producer recorded traits to breeding indexes

Index	Subjective	Total recorded by producers
Terminal	12%	20%
Replacement	25%	43%
Dairy-beef	18%	32%

Use	Subjective	Recorded
Goal	Dystocia, docility	Fertility, gestation, mortality
Predictor	Milkability, calf quality, birth size	Weights

Factors contributing to success

Infrastructure

Goal

Recording

Genetic evaluations

Integration

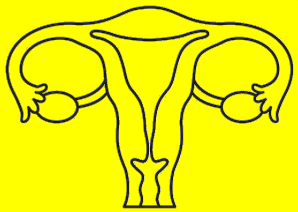
Single voice

Genetic evaluations

Dystocia + gestation + mortality

Carcass + DMI

Docility

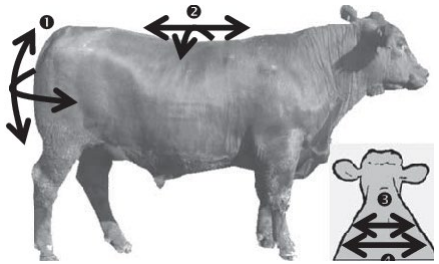


Fertility

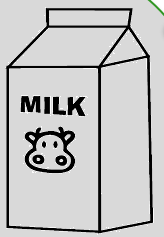
Breeding objectives

Age at slaughter

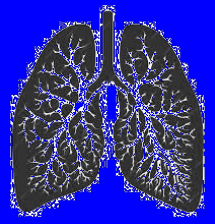
Meat quality (+marbling)



Muscle + skeletal



Milk

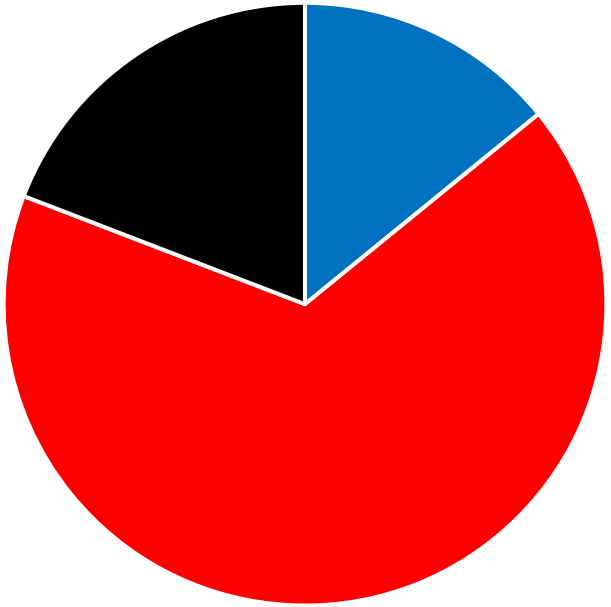


TB

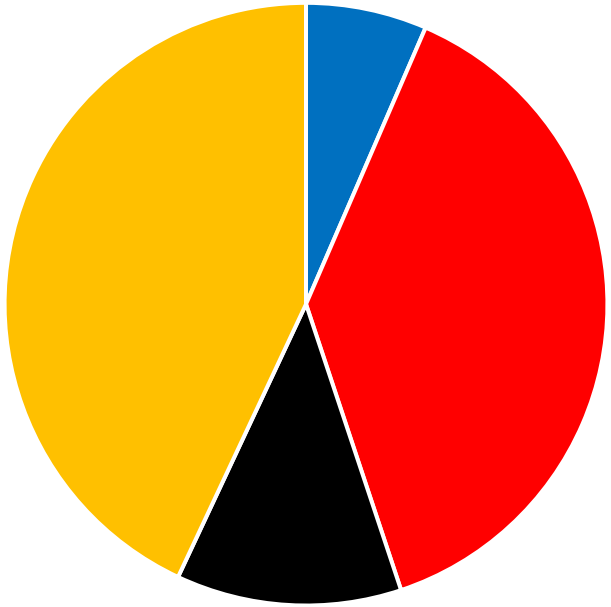
Methane

Data

Calving (n=7,777,511)

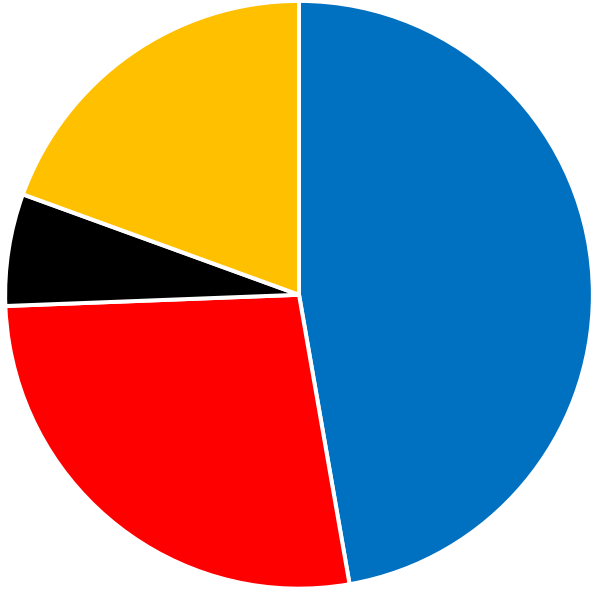


Carcass (n=12,437,280)

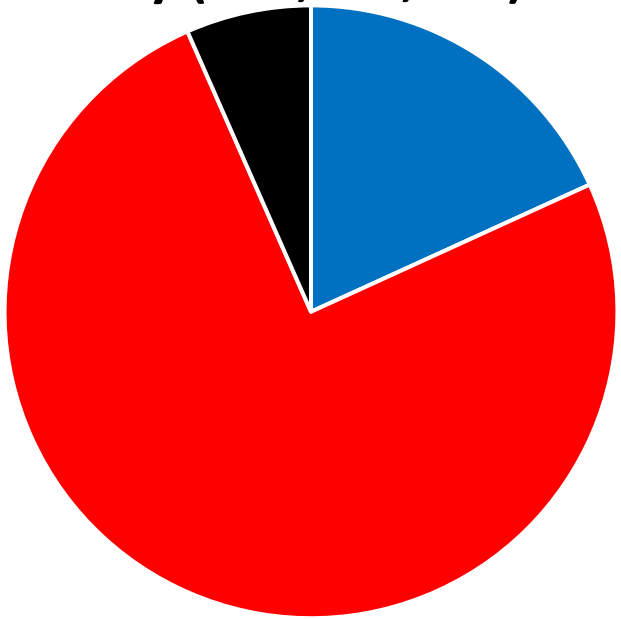


- Purebred Beef
- Beef x Beef crossbred
- Beef x dairy
- Dairy x dairy

Feed intake (n=9,008)



Fertility (n=8,094,732)



Models – calving performance

Trait	Heterosis	Dam/cow age (*parity)	Sex (*age)	Twin	Birth year	HYS	(Dam)PE	Direct genetic	Maternal Genetic
Calving									
Dairy heifer	x	x	x		x	x		x	x
Dairy cow	x	x	x		x	x	x	x	x
Beef Heifer	x	x	x		x	x		x	x
Beef cow	x	x	x		x	x	x	x	x
Birth size	x	x	x		x	x	x	x	x
Birth wt	x	x	x		x	x	x	x	x
International direct								x	
International maternal									x
Gestation & mortality mort									
Calving diff	x	x	x		x	x	x	x	x
Calf mortality	x	x	x		x	x	x	x	x
Gestation	x	x	x		x	x	x	x	x
Wt 1-10 d	x	x	x	x	x	x	x	x	x
Wt 150-250 d	x	x	x	x	x	x	x	x	x
Wt 250-350 d	x	x	x	x	x	x	x	x	x
Carc wt	x	x	x	x	x	x2	x	x	
International direct								x	
International maternal									x

Genetic correlations – calving performance

Trait	Dairy Heifer direct	Dairy cow direct	Beef Heifer direct	Beef Cow direct	Birth size direct	Birth wt direct	Dairy Heifer maternal	Dairy Cow maternal	Beef Heifer maternal	Beef Cow maternal	Birth size maternal	Birth weight maternal
Dairy Heifer (d)	0.16											
Dairy Cow (d)	0.91	0.08										
Beef Heifer (d)	0.80	0.78	0.17									
Beef Cow (d)	0.62	0.59	0.94	0.15								
Birth size (d)	0.82	0.74	0.88	0.85	0.24							
Birth wt (d)	0.63	0.64	0.64	0.62	0.52	0.41						
Dairy Heifer (m)	-0.07	-0.22	-0.02	-0.29	-0.43	-0.16	0.04					
Dairy Cow (m)	0.24	-0.07	-0.38	-0.41	-0.15	-0.16	0.76	0.02				
Beef Heifer (m)	-0.62	-0.21	-0.26	-0.23	-0.25	-0.25	0.39	0.75	0.09			
Beef Cow (m)	0.27	-0.36	-0.04	0.01	-0.76	-0.12	0.57	0.73	0.97	0.08		
Birth size (m)	-0.38	-0.52	-0.49	-0.64	-0.39	-0.31	0.34	0.82	0.66	0.81	0.05	
Birth wt (m)	-0.06	-0.42	-0.16	-0.4	-0.31	-0.48	0.61	0.67	0.56	0.38	0.54	0.09

Models – milk, fertility, docility

Trait	Dam/cow Het	Rec	age (*parity)	Parity	Sex (*age)	Twin	Scorer	HYS	(Dam)PE	Direct genetic	Maternal Genetic
Milk yield											
Milk score	x			x				x	x	x	
Wt 50-150 d	x			x	x	x		x2		x	x
Wt 150-250 d	x			x	x	x		x2		x	x
Wt 250-350 d	x			x	x	x		x2		x	x
Carc wt	x				x			x		x	
International										x	
Fertility											
Age 1st Calv	x	x						x		x	
Calving interval	x	x		x				x	x	x	
Survival	x	x		x				x	x	x	
Dystocia	x	x		x	x	x		x	x	x	
Carc wt	x	x			x			x		x	
Carc fat	x	x			x			x		x	
Docility											
Farmer wean scored	x	x		x	x			x		x	
Professional scored	x	x			x		x	x		x	
Farmer cow scored	x	x	x	x				x	x	x	

Models – carcass

Trait	Heterosis	Dam/cow age (*parity)	Dairy dam	Stage of lactation	Sex (*age)	Twin	Scorer	HYS	PE	Direct genetic
Calf quality	x	x	x		xa	x		x	x	x
Calf price	x	x	x		xa	x		x	x	x
Weanling price	x	x	x		xa	x		x	x	x
Post-wean price	x	x	x		xa	x		x	x	x
Muscle score	x	x	x		x	x	x	x	x	x
Carc conformation	x	x	x		x	x		x2		x
Cow conformation	x		x					x2		x
Wt 150-250 d	x		x		x	x			x	x
Wt 250-350 d	x	x	x		x	x			x	x
Wt 350-450 d	x	x	x		x	x			x	x
Wt 450-550 d	x	x	x		x	x			x	x
Wt 550-700 d	x	x	x		x	x			x	x
Cow live wt	x	x		x					x	x
Skeletal	x	x	x		x	x	x		x	x
Carc wt	x	x	x		x	x		x2	x	x
Cull carc wt	x		x					x2		x
skel=	x	x	x			x		x	x	x
DMI	x	x	x			x		x		x
Carc fat	x	x	x			x		x2	X	x
International evaluations										x

Factors contributing to success

Infrastructure

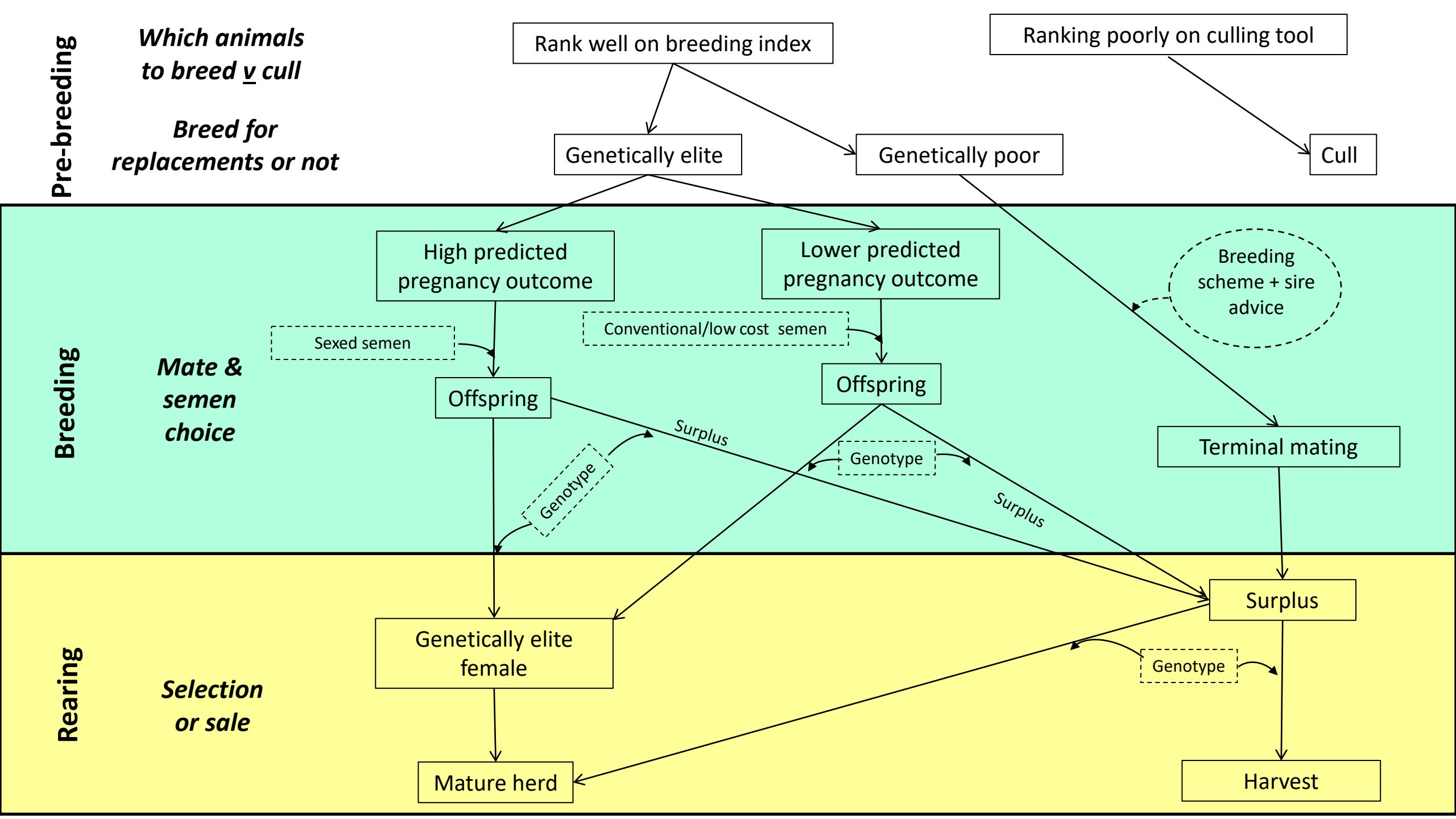
Goal

Recording

Genetic evaluations

Integration

Single voice


Pre-breeding
Which animals to breed v cull
Breed for replacements or not
Rank well on breeding index
Ranking poorly on culling tool
Genetically elite
Genetically poor
Cull
Breeding
Mate & semen choice
High predicted pregnancy outcome
Lower predicted pregnancy outcome
Breeding scheme + sire advice
Sexed semen
Conventional/low cost semen
Offspring
Offspring
Surplus
Genotype
Genotype
Surplus
Terminal mating
Rearing
Selection or sale
Genetically elite female
Surplus
Genotype
Mature herd
Harvest

Commercial herd profile

(crossbred cows & cattle)

Beef Euro-Star Profile All animals that have a Euro Star Index. Additional Breeding Values are available in the Excel file.

Nov 2023 Evaluation

€121

Herd Replacement Index (Cows)

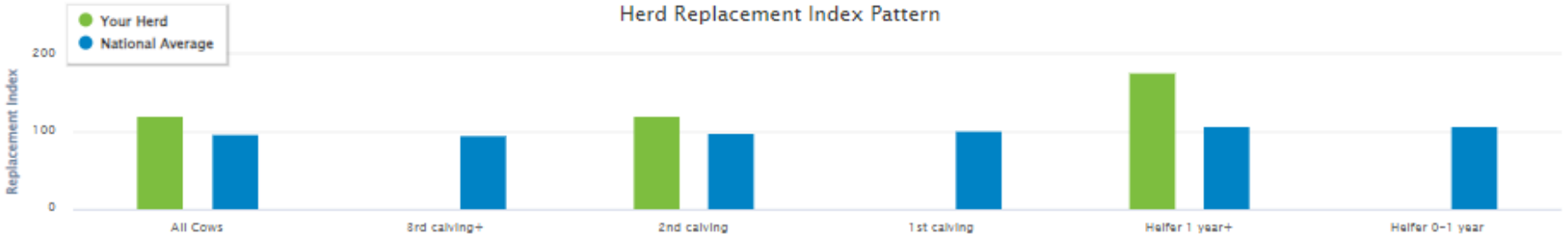
★★★★★

5 (Kg) ★☆☆☆☆ Carcass Wgt

8.3 (Kg) ★★★★★ Daught Milk

-2.93 (Days) ★★★★★ Daught Calv Int

0.19 ★★★★★ Docility



Showing 1 to 6 of 6 entries

Hide filters | Excel | PDF | Print

Animal Details									Replacement Index			Terminal Index			Dairy Beef Index			Dairy Beef Index		
Jumbo	Animal Number	Breed	Birth Date	Sex	Calvings	Dam	Sire	Genomic Eval	Index €	Euro-Star Within Breed	Euro-Star Across Breed	Index €	Euro-Star Within Breed	Euro-Star Across Breed	Index €	Euro-Star Within Breed	Euro-Star Across Breed	Index €	Euro-Star Within Breed	Euro-Star Across Breed
361	372222043310361	BB (50%) HE (22%)	07-APR-19	F	2	IE151675510727		ODY	Yes	94		★★★☆☆								
1539	372216258471539	AA (44%) HO (34%)	05-FEB-20	F	2	372216258481399		MISSING SIRE	No	132		★★★★★								
1582	372216258411582	AA (44%) HO (41%)	18-FEB-20	F	2	372216258481341		MISSING SIRE	No	137		★★★★★								
1736	372216258461736	AA (44%) HO (38%)	02-FEB-22	F	0	372216258461604		MISSING SIRE	No											
1760	372216258461760	AA (44%) HO (41%)	12-FEB-22	F	0	372216258451529		MISSING SIRE	Yes	177		★★★★★								
50373	372222043350373	AA (72%) HO (22%)	21-JUL-23	M	0	372216258411582		ZEP	No	142		★★★★★	28		★☆☆☆☆	117		★★★★★		

Herd profile

Comparable to bull genetic evaluation

Animal Details	Pro									
Jumbo	Gestation (days)	Mortality (%)	Feed Intake (kg)	Carcass Weight (kg)	Carcass Conformation (1-15)	Age 1 Calvi (days				g)
361	-1.08	0.07	-0.22	15	1.42	17.6				
1539	-0.77	-0.17	0.10	-1.0	0.04	-14.5				
1582	-1.12	-0.18	0.18	0.8	0.06	-14.1				
1736	-0.50	-0.12	0.11	0.0	0.04	-12.4				
1760	-1.45	-0.59	0.24	-3.0	0.01	-16.5	7.49	15.4	-7.48	12.8

Daughter Replacement Traits

Star Rating (within Charolais breed)	Economic Indexes	Purpose	€uro value	Index reliability	Star Rating (across all beef breeds)
★	Replacement (per daughter lactation)	To breed future cows for the suckler herd	- €65	98% (V High)	★
★	Terminal	To breed beef animals from the suckler herd that are destined for finishing	€85	96% (V High)	★★★
★	Dairy Beef	To breed beef animals from the dairy herd that are destined for finishing	- €121	95% (V High)	★

Calving Difficulty (births requring considerable assistance; % 3 & 4)		
When Mated With:	Value	Reliability
Beef Heifers Breed avg: 10.28%, All breeds avg: 7.68%	16.6%	98% (V High)
Beef Cows Breed avg: 4.92%, All breeds avg: 3.60%	7.5%	99% (V High)

Star Rating (within Charolais breed)	Key profit traits	Index value	Trait reliability	Star Rating (across all beef breeds)
Expected progeny performance				
★★	Gestation (days) Breed avg: 2.70, All breeds avg: 2.54	3.05 days	99% (V High)	★★
★★★★★	Docility (1-5 scale) Breed avg: 0.04, All breeds avg: 0.02	0.08 scale	99% (V High)	★★★★
★★★★	Age at finish (days) Breed avg: -1.47, All breeds avg: -1.39	-2.24 days	99% (V High)	★★★★
★	Carcass weight (kg) Breed avg: 34.85kg, All breeds avg: 17.58kg	28.6kg	99% (V High)	★★★★★
★★★★	Carcass conformation (1-15 scale) Breed avg: 1.92, All breeds avg: 1.47	2.04 scale	99% (V High)	★★★★★

Major genes

372222043310361 X

Animal Number:	372222043310361	**Genotype Received:**	01-OCT-23
Animal Name:		**Call Rate:**	.984987
Breed:	BB	**Chip Type:**	IDBV5
Birth Date:	07-APR-19	**Genotype Valid:**	Yes
Death Date:			
Sire:	ODY		
Dam:	IE151675510727		

Show 10 rows. Showing 1 to 10 of 10 entries — First Previous 1 Next Last — Hide filters — Excel PDF Print

Major Gene | Type | Code | Quality Check | Result

Major Gene	Type	Code	Quality Check	Result
Myostatin C313Y	Meat	MYO_C313Y	PASS	NO COPY
Myostatin D182N	Meat	MYO_D182N	PASS	NO COPY
Myostatin E226X	Meat	MYO_E226X	PASS	NO COPY
Myostatin F94L	Meat	MYO_F94L	PASS	NO COPY
Myostatin L64P	Meat	MYO_L64P	PASS	NO COPY
Myostatin NT419	Meat	MYO_NT419	PASS	NO COPY
Myostatin NT821DEL11	Meat	MYO_NT821	PASS	SINGLE COPY
Polled Celtic	Beneficial	POLL_C	PASS	NO COPY
Myostatin Q204X	Meat	MYO_Q204X	PASS	NO COPY
Myostatin S105C	Meat	MYO_S105C	PASS	NO COPY

Showing 1 to 10 of 10 entries — First Previous 1 Next Last

Vertical integration

Dairy Beef Index
BREEDING HIGH QUALITY BEEF CATTLE FROM THE DAIRY HERD
icbf

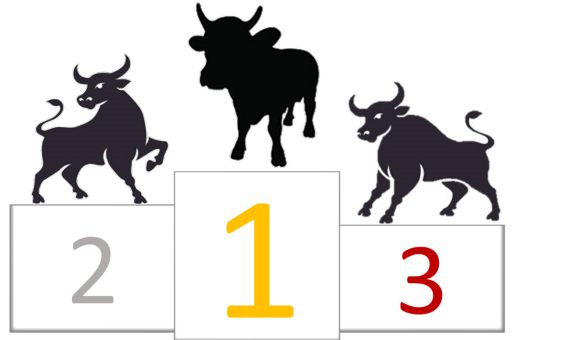
Sire Advice

Commercial Beef Value

Rank Sires

Rank Matings

Rank Progeny



Vertical integration

Dairy Beef Index
BREEDING HIGH QUALITY BEEF CATTLE FROM THE DAIRY HERD
icbf

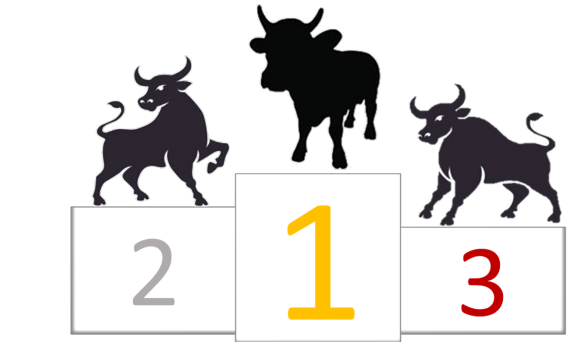
Sire Advice

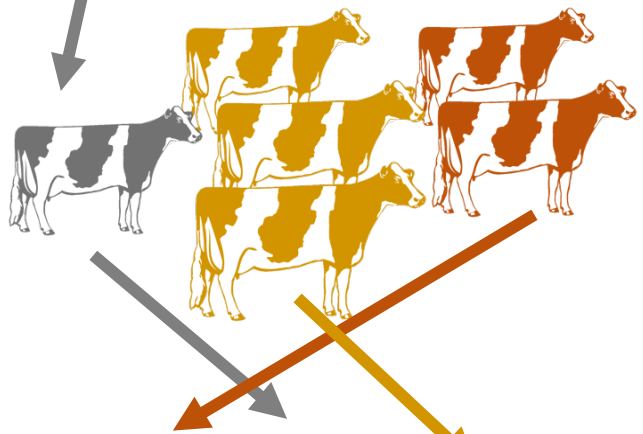
Commercial Beef Value

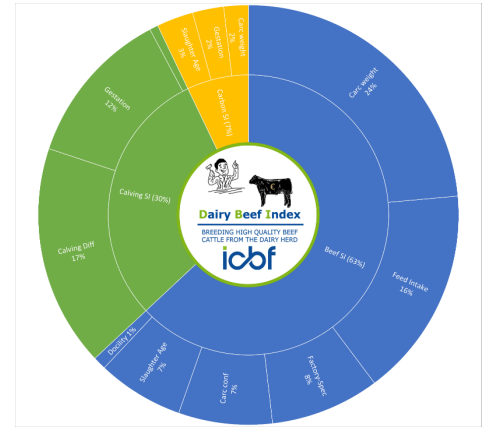
Rank Sires

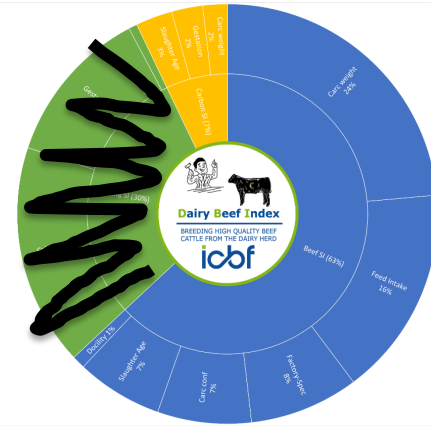
Rank Matings

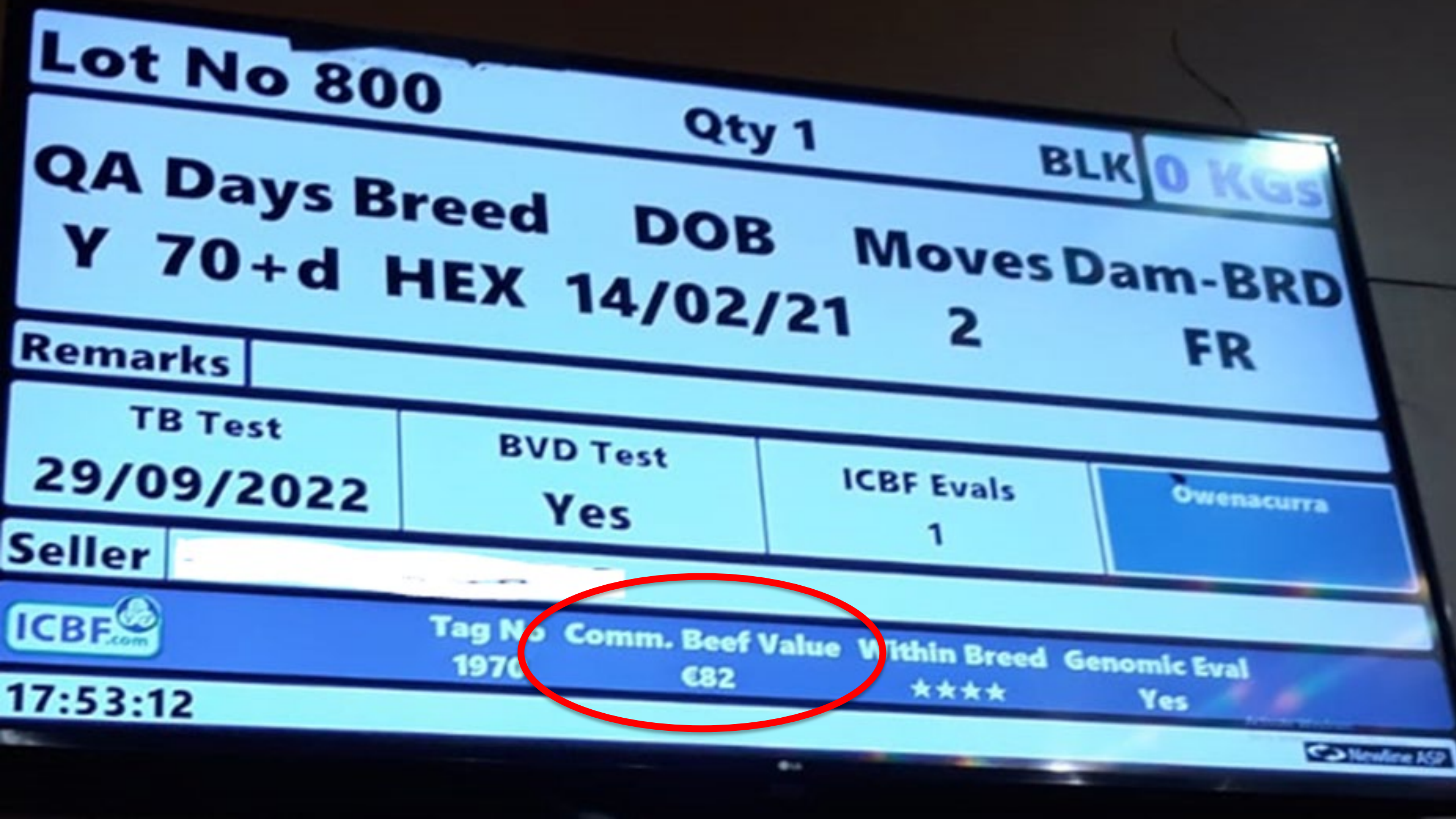
Rank Progeny





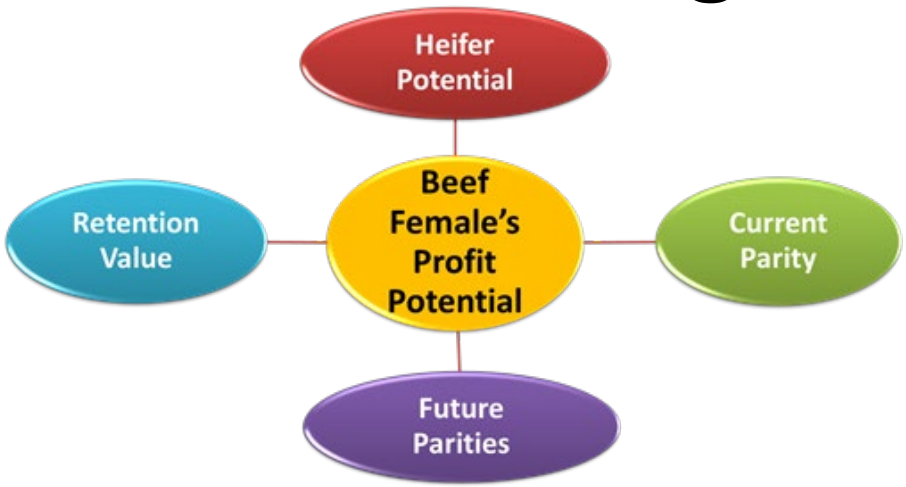





Lot No 800
Qty 1
BLK
0 Kgs
QA Days Breed
Y 70+d HEX
DOB
14/02/21
Moves
2
Dam-BRD
FR
Remarks
TB Test
29/09/2022
BVD Test
Yes
ICBF Evals
1
Owenacurra
Seller
ICBF.com
Tag No
1970
Comm. Beef Value
€82
Within Breed
★★★★
Genomic Eval
Yes
17:53:12

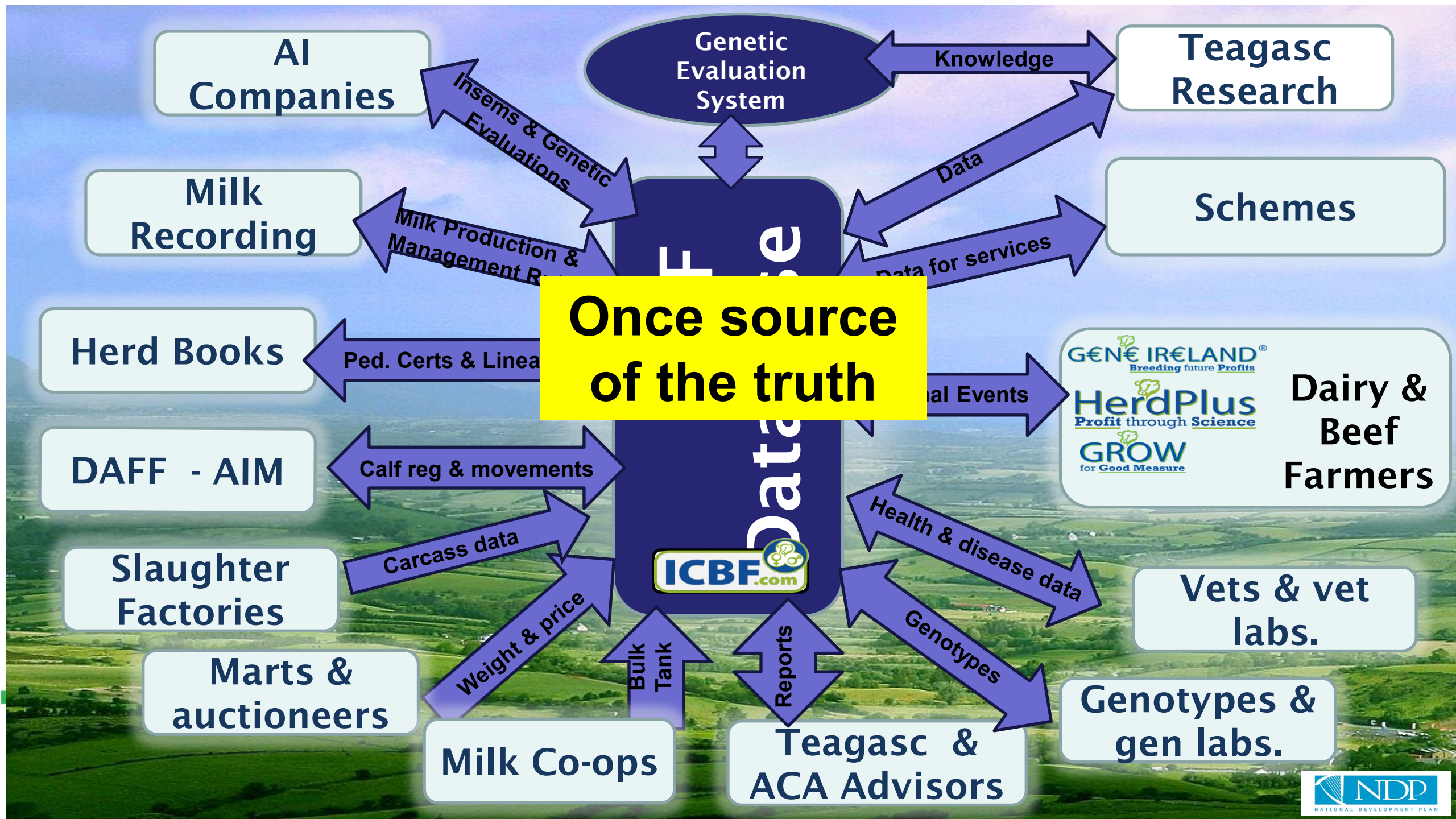
Beef female culling index

Stratified animals within herd based on culling index

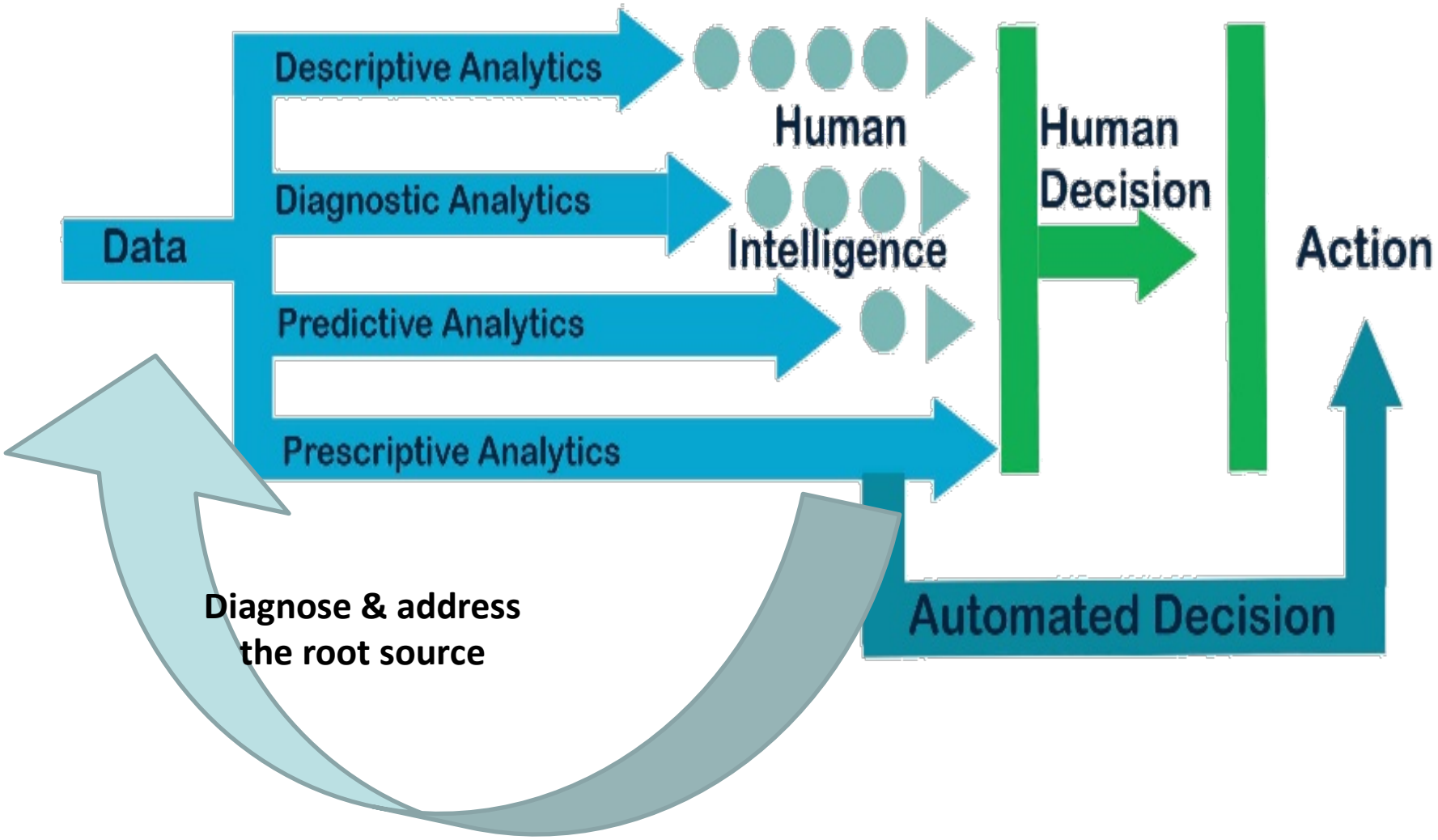


		Top 25%	50% to 75%	25% to 50%	Bottom 25%
Cows traits	Calving date	6th Apr	16th Apr	28th Apr	14th May
	Survival (0 to 1)	1.62	1.49	1.33	1.00

	Carcass	Top 25%	50% to 75%	25% to 50%	Bottom 25%
Progeny traits	Weight (kg)	398.46	398.48	396.61	394.29
	Conformation (Higher is better)	7.19	7.14	7.07	6.94
	Fat (Higher is fatter)	7.94	7.99	8.04	8.04


AI Companies
Genetic Evaluation System
Knowledge
Teagasc Research
Insems & Genetic Evaluations
Data
Milk Recording
Milk Production & Management
Schemes
Data for services
Once source of the truth
Herd Books
Ped. Certs & Linea
al Events
GENE IRELAND
Breeding future Profits
HerdPlus
Profit through Science
GROW
for Good Measure
Dairy & Beef Farmers
DAFF - AIM
Calf reg & movements
Carcass data
Health & disease data
Slaughter Factories
ICBF.com
Vets & vet labs.
Weight & price
Bulk Tank
Reports
Genotypes
Marts & auctioneers
Genotypes & gen labs.
Milk Co-ops
Teagasc & ACA Advisors
NDP
NATIONAL DEVELOPMENT PLAN

Decision support → decision making



Factors contributing to success

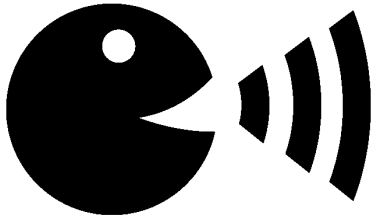
Infrastructure

Goal

Recording

Genetic evaluations

Integration



Single voice

Single voice

10 research farms

50 test-bed farms

2,610 Discussion group members

28,305 Clients

Producers

Take home message

- Irish model is conditioned to Irish landscape
  - Reproducible elsewhere?
- How provide breeding decisions without estimate of genetic merit for commercial (crossbred) cattle?
- Estimated breeding values → estimated production values

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