



IRISH CATTLE BREEDING FEDERATION

Key Trends from National Suckler Herd.



*Dail Agricultural Affairs Committee.
22 May 2018*

1m AI recs/yr

AI Companies

Genetic

30m animals with 100m+ records.

Knowledge

Teagasc Research

660k MR recs/yr

Milk Recording

Insems & Genetic Evaluations

Data

Schemes, e.g., BVD, BDGP, Origin Green

Milk Production & Management Rpts

Data for services

2.3 m birth recs/yr

Herd Books

Ped. Certs & Linears

100k farmers are now serviced from the database.

Animal Events

GENE IRELAND®
Breeding future Profits

Dairy & Beef Farmers

HerdPlus
Profit through Science

GROW
for Good Measure

DAFF - AIM

Calf reg & movements

1.6 m carcass recs/yr
Factories

Carcass data

Health & disease data

2.3m BVD recs/yr

Vets & vet labs.

Marts & auctioneers

7.0 m movement records/yr

Weight & price

Bulk Tank

Reports

Genotypes

Genotypes labs.

Milk Co-ops

Teagasc ACA Ad

500k genotype recs/yr

2

€uro-Star Replacement Index.

Trait	Goal	Relative wt
Calving	Less	16%
Feed Intake	Less	18%
Carcass wt (for age)	More	21%
Maternal milk	More	18%
Female fertility	More	23%
Docility	More	4%

- The ideal Irish beef cow; A weaned calf every year of good weight & quality.

ICBF Spring Active Beef Bull List 2018

Bull Details					Replacement				Calving			Milk		Semen	
Rank	Code	Bull Name	Breed	Gene Ireland	Index	Rel %	Stars Within	Stars Across	Calv Diff %	Rel %	Calv Recs	Daughter Milk (kgs)	Rel %	Price	Supplier
1	SA4059	Beguin	SA	No	€252	59	5	5	1.6	83	121	15.8	72	€26	Munster,PG
2	SA2189	Ulsan	SA	No	€203	63	5	5	1	96	780	11.7	73	€10	Dovea
3	SI4383	Derreen Declan	SI	No	€192	54	5	5	3.2	74	69	12	49	€12	Dunmasc
4	ZAG	Castleview Gazelle	LM	Yes	€191	77	5	5	4.4	99	27072	0.9	76	€10	Munster,PG
5	SFL	Du Stordeur Flaneur	BB	No	€183	96	5	5	5.1	99	10244	4.4	99	€15	Bova
6	VTa	Vaillant	SA	No	€179	77	5	5	2.1	93	300	6.2	85	€14	Bova
7	ISL	Islavale Cracker 11	SI	No	€171	76	5	5	7.2	87	1148	8.6	86	€10	Dovea
8	SI2469	Lisnacraan Fifty Cent	SI	Yes	€170	57	5	5	3.2	97	1148	8.6	86	€12	Munster,PG
9	SA2153	Highfield Odran	SA	Yes	€166	54	5	5	3.2	97	1148	8.6	86	€10	Munster,PG
10	QCD	Cloondroon Calling	SI	Yes	€161	82	5	5	3.2	97	1148	8.6	86	€10	Dovea
11	SA4060	Baron	SA	No	€161	50	5	5	3.2	97	1148	8.6	86	€22	Munster,PG
12	JSS	Usse	LM	No	€160	52	5	5	3.2	97	1148	8.6	86	€16	Eurogene
13	SI2152	Curaheen Earp	SI	Yes	€159	59	5	5	4.7	98	2183	10.5	50	€10	Munster,PG
14	VMO	Voimo	CH	No	€159	64	5	5	5.4	86	151	7.6	75	€38	Munster,PG
15	CH2218	Bivouac	CH	No	€155	59	5	5	4.1	90	258	3.9	70	€10	Dovea
16	XCD	Clonagh Direct Debit	SI	No	€155	60	5	5	3.4	90	327	11.7	51	€16	Dunmasc
17	GEU	Gordon Et Du Golard	BB	No	€155	77	5	5	9.5	90	260	6.4	83	€10	Munster,PG
18	SI4030	Auchorachan Wizard	SI	No	€153	54	5	5	9.1	73	34	17.9	62	€50	Eurogene
19	TSO	Curaheen Tyson (Et)	SI	No	€150	89	5	5	5.7	96	552	5	94	€50	Celtic Sires
20	LZR	Lataster Eric	SA	No	€150	92	4	5	4.7	98	1702	5.6	97	€10	Munster,PG
21	SI2099	Kilbride Farm Escalop 13	SI	No	€149	51	5	5	13.9	89	290	18.7	44	€10	Bova
22	ZLL	Lanigan Red Deep Canyon Et	AA	No	€146	78	5	5	2	98	2415	9.7	84	€30	Bova
23	KYA	Cornamuckla Lord Hardy K222	AA	No	€145	95	5	5	0.8	99	39775	3.6	98	€10	Munster,PG
24	ZEP	Hawkley Red Zeppelin N659	AA	No	€143	50	5	5	2.1	91	380	5.3	38	€10	Dovea
25	PZB	Bonaparte	SA	No	€142	81	3	5	3	97	1284	1.1	90	€10	Munster,PG
26	DZJ	Drumlegagh Dennis	SA	No	€141	64	3	5	3.2	87	244	6.3	68	€12	Eurogene
27	AHC	Auroch Deuter Pp	SI	Yes	€140	61	5	5	5.4	96	827	9.5	44	€10	Munster,PG
28	YFK	Kilbride Farm Delboy 12	SI	No	€138	64	5	5	10.6	96	805	9.7	58	€15	Eurogene
29	OKH	Keltic Handsome	LM	Yes	€138	66	5	5	6.1	99	4322	1.5	54	€12	Munster
30	SI4083	Clonagh Frosty King Et	SI	Yes	€137	50	4	5	4.1	65	36	12.2	50	€10	Munster

• Range of breeds on Top Bull Listing => Focused on promoting these bulls within the relevant breeds.

Beef Data & Genomics Program On-Farm Validation Study.

Star Rating	No. Animals	Replacement Index/parity	Lifetime CO2e*	AFC (days)	CIV (days)	Cow Wt (kg)	Wean Wt (kg)	Progeny Carc Wt (kg)	Progeny Carc Age (days)
5 Star	2,183	€130	17,085	860	375	664	311	374	604
4 Star	1,881	€87	17,260	862	376	672	305	373	606
3 Star	1,984	€58	17,378	881	377	684	299	370	605
2 Star	120	€31	17,484	887	377	689	296	364	605
1 Star	724	-€6	17,635	896	383	737	285	361	610
Diff 1 v 5 star		€136	-550	36	8	73	26	13	-6
Pvalue				***	*	***	***	***	NS

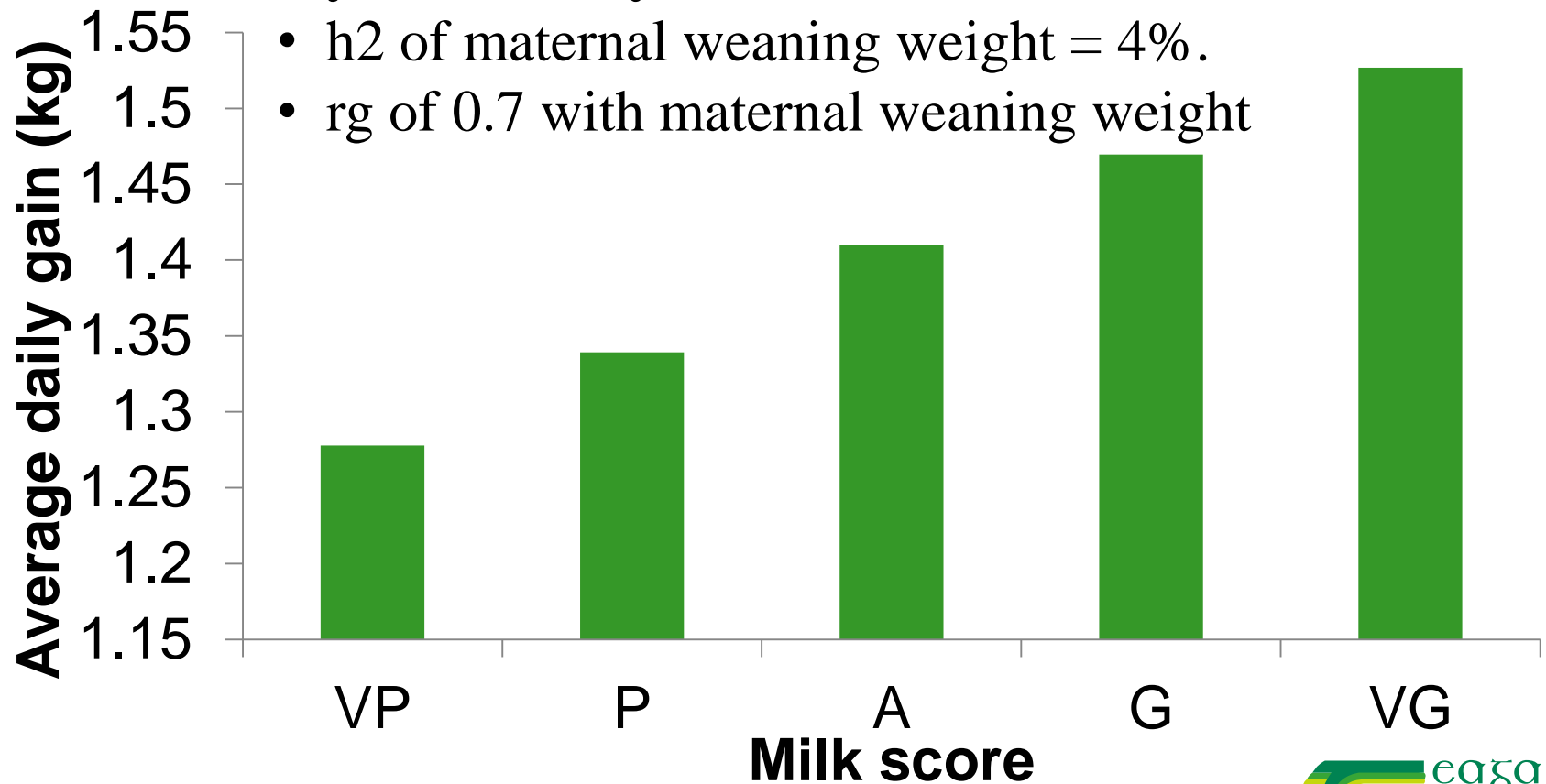
* Based on Gross Emissions Output over the cows lifetime. Includes emissions from the cow and her progeny.

- Large scale beef genomics project in Ireland. 1.3m beef animals genotyped to date. 24k farmers and 600k cows involved. Funded as part of RDP. Goal to breed more profitable and carbon efficient beef cows.
- Initial results based on Teagasc-ICBF validation study indicate that 5 star cows are €136 more profitable per parity and produce 550 kg less CO2e in their lifetime **(Gross Emissions Output)**

5

Growth rate of weanlings per milk score (Twomey, 2018).

- h^2 of cow milk score = 34% (Note: milk yield in dairy cows is ~35%).
- h^2 of maternal weaning weight = 4%.
- rg of 0.7 with maternal weaning weight



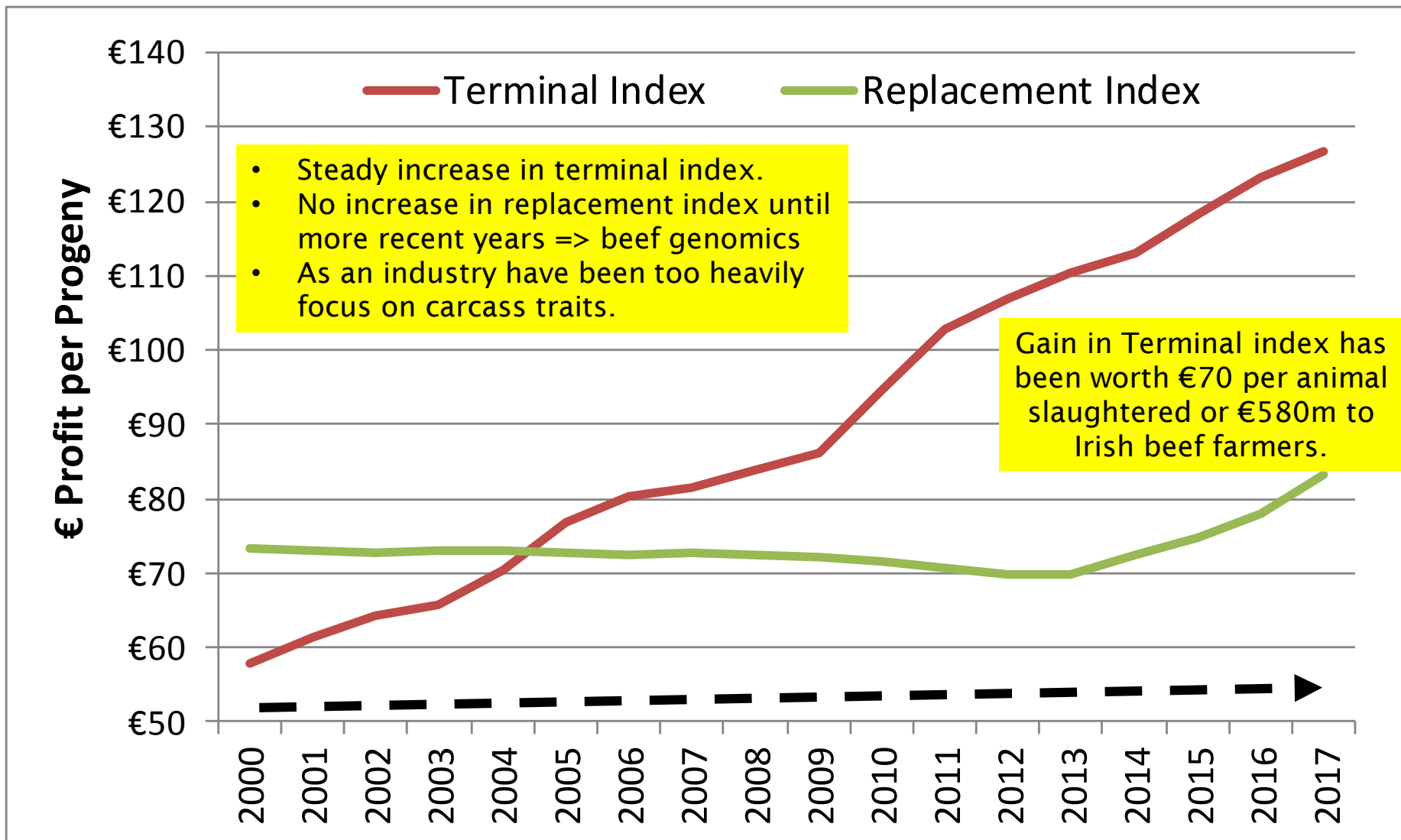
€1000+ Weanlings; % by Stars

Dam Stars	Num	% Total	Rep Index	Age Sale	Weight kg	Price/kg	Price
1 Star	1,449	13%	€22	249.4	399.0	€2.76	€1,101
2 Star	1,354	12%					
3 Star	1,681	15%	€69	249.1	405.2	€2.71	€1,099
4 Star	2,160	19%					
5 Star	4,094	37%	€121	245.1	411.0	€2.67	€1,098
No Stars	442	4%					
Overall	11,180	100%	€84	247.5	406.5	€2.70	€1,098

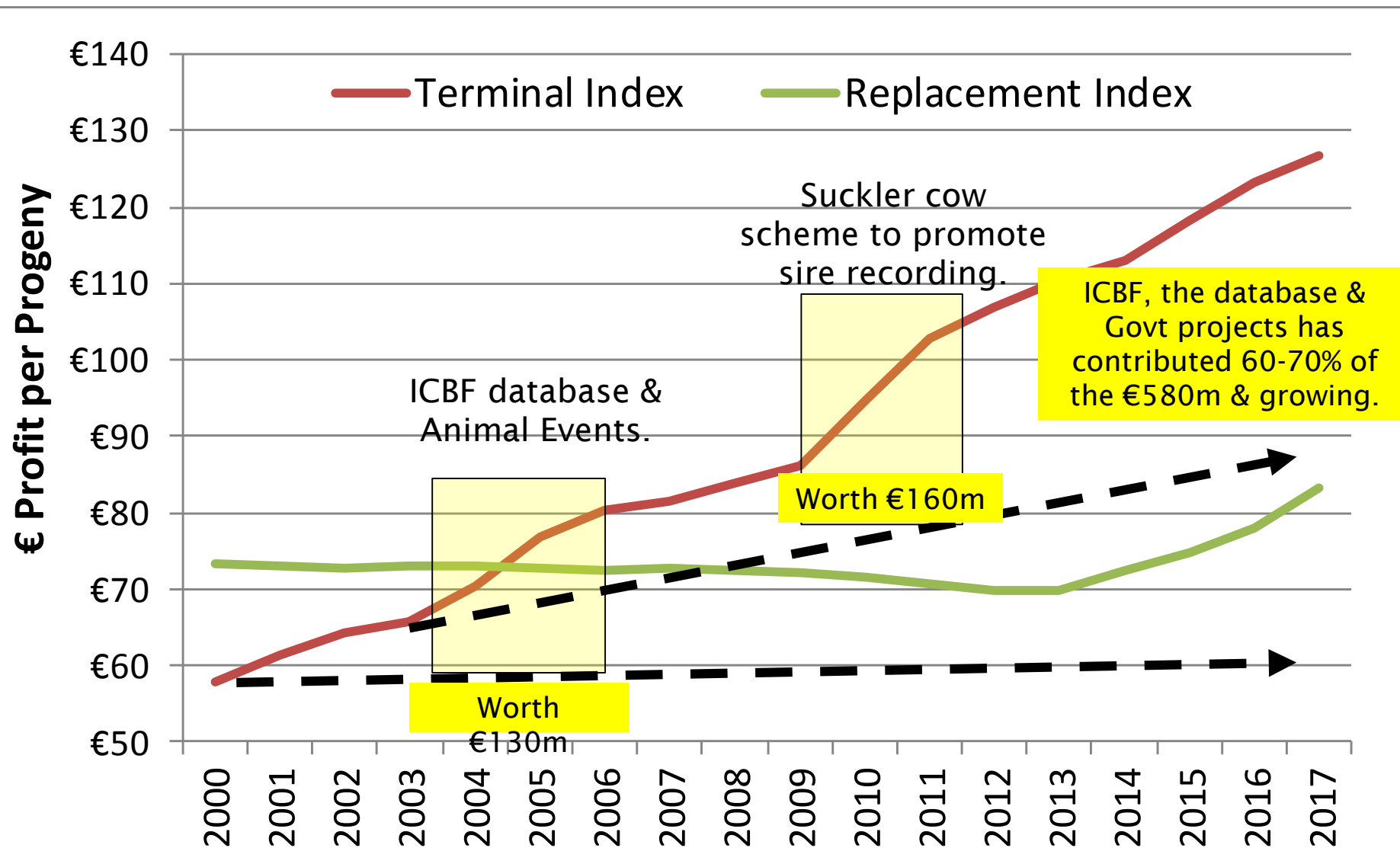
* Based on 11,180 €1000+ weanlings sold across 66 marts in 2017.

- Of the 11,180 €1000+ weanlings sold across marts in 2017, 37% were from 5 star suckler beef cows. This is compared to only 13% being from 1 star cows.

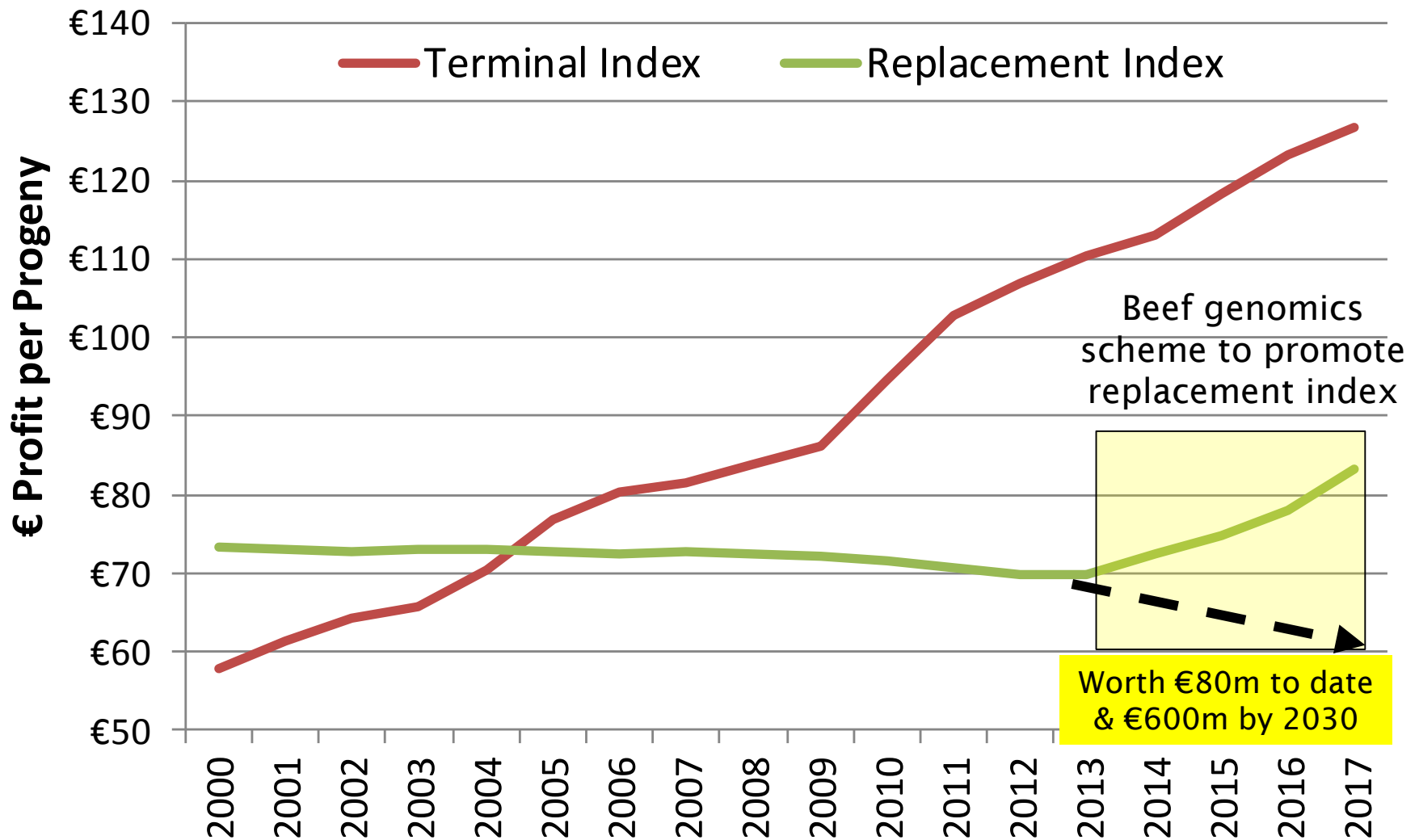
Value of Genetic Gain for Terminal Index



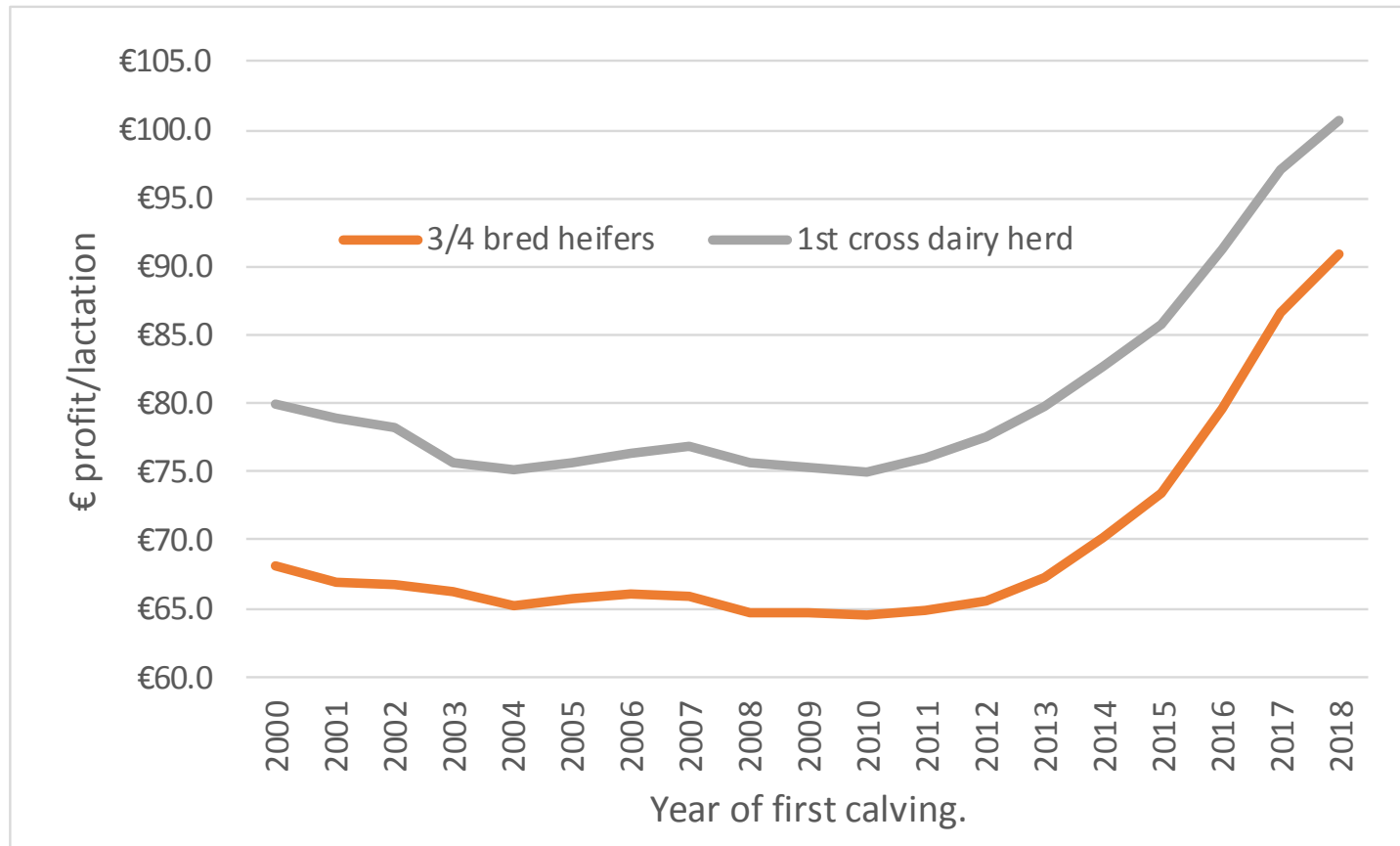
The Value of ICBF & Govt/Industry Supported Programs – Terminal Index.



The Value of Govt/Industry supported Programs – Rep Index.



Genetic Trends in Replacement Index for $\frac{3}{4}$ bred and 1st cross beef cows.



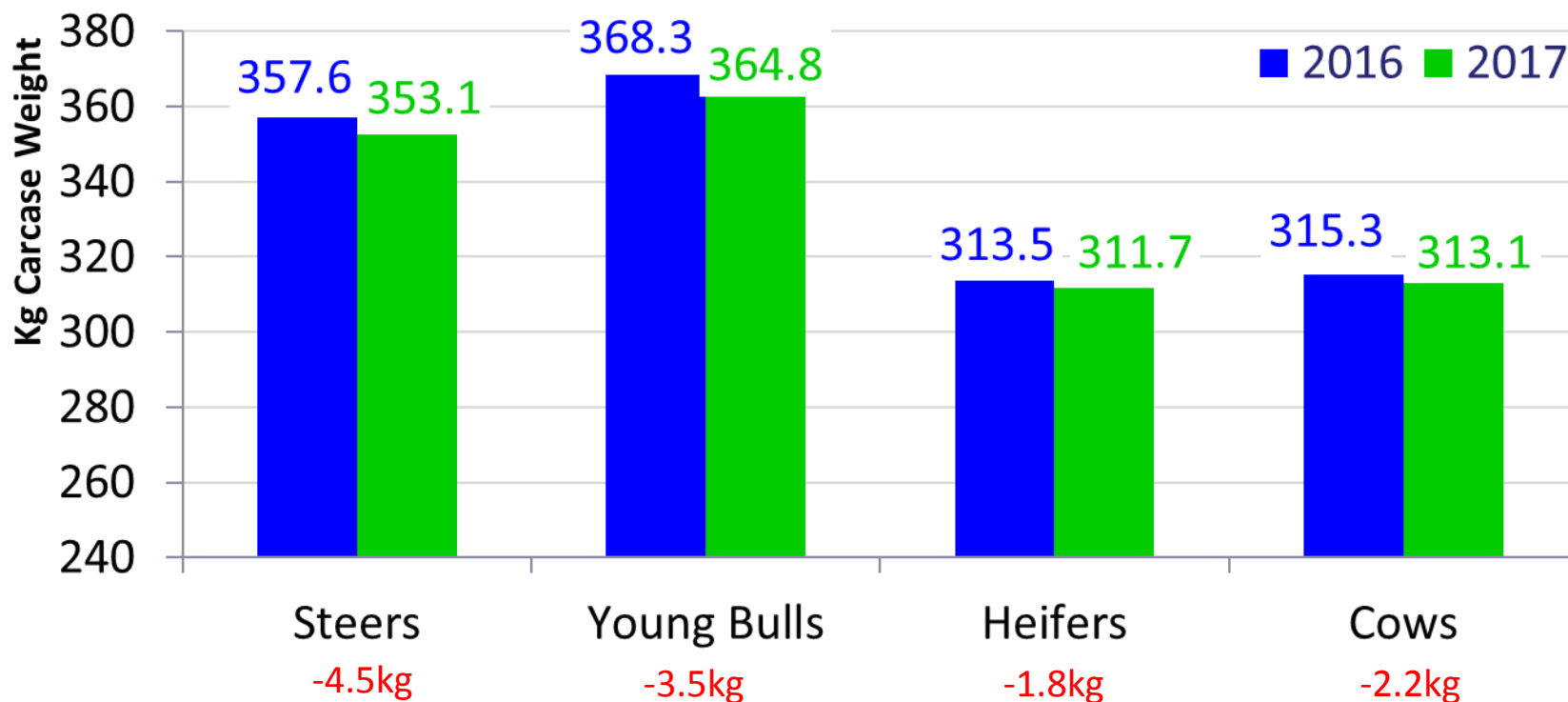
- 77% of replacement females are $\frac{3}{4}$ bred. Up from 74% in 2008.
- Due to BDGP, rate of genetic gain for replacement index is higher for $\frac{3}{4}$ bred beef females than 1st cross animals from dairy herd.

Impact of BDGP => Gains in productivity.

Key Metrics	2014	2015	2016	2017
Calving Interval (days)	407	399	391	393
Calves per cow per year	0.80	0.84	0.85	0.87
Age at first calving	31.3	31.1	30.6	30.0
% heifers calved at 22-26 months	17.2	19.2	21.2	25.8
Average parity	4.3	4.4	4.5	4.5
% Dead at birth	1.0	1.2	1.5	1.3
% Dead at 28 days	2.2	2.6	3.4	2.7
% calvings with recorded sire	78.3	80.7	92.8	89.2
% calvings with recorded AI sire	25.4	26.3	28.3	28.6
% calving with calving score data	80.7	83.2	95.9	92.7
% cows culled	18.4	16.3	16	16.8

- Clear gain in productivity for all key metrics within BDGP herds. For example, calves/cow/year has increased from 0.80 to 0.87.
- Comparable figure for all suckler herds, calves/cow/year has increased from 0.79 to 0.85.

Average Carcase Weights Decline



Slight decline in average carcass weights: due primarily to a higher % of animals coming from the dairy herd, but also earlier finishing.

Why the Average Carcass Weights Decline – Steers?

	Beef * Beef			Beef * Dairy			Dairy * Dairy			Overall	
	Number	% Total	Cwt	Number	% Total	Cwt	Number	% Total	Cwt	Total	Cwt
2013	232,433	0.46	379.1	124,413	0.25	334.7	144,619	0.29	314.3	501,465	349.4
2014	253,674	0.44	380.6	138,946	0.24	339.2	180,679	0.32	322.1	573,299	352.1
2015	281,645	0.47	388.4	142,718	0.24	342.9	180,196	0.30	325.9	604,559	359.0
2016	268,683	0.45	387.2	167,002	0.28	340.9	164,643	0.27	326.1	600,328	357.6
2017	269,502	0.41	386.3	197,003	0.30	339.1	184,700	0.28	319.6	651,205	353.1

Average carcass weights are increasing across suckler beef, dairy beef and dairy steers.

But, % of dairy beef steers has increased significantly resulting in overall reduction in carcass weight of steers.

Impact on age at slaughter – Steers.

	Beef * Beef			Beef * Dairy			Dairy * Dairy			Overall	
	Number	% Total	Age	Number	% Total	Age	Number	% Total	Age	Total	Age
2013	232,433	0.46	874.7	124,413	0.25	877.4	144,619	0.29	848.8	501,465	867.9
2014	253,674	0.44	899.5	138,946	0.24	880.7	180,679	0.32	883.5	573,299	889.9
2015	281,645	0.47	879.2	142,718	0.24	855.7	180,196	0.30	872.0	604,559	871.5
2016	268,683	0.45	859.9	167,002	0.28	835.4	164,643	0.27	860.1	600,328	853.1
2017	269,502	0.41	852.9	197,003	0.30	830.5	184,700	0.28	838.7	651,205	842.1

Again age at slaughter is decreasing across suckler beef, dairy beef and dairy steers. Now 27.5 months. Down 11 days from 2016.

But, % of dairy beef steers has increased significantly resulting in greater overall reduction in average age at slaughter.

Impact on carcass conformation – Steers.

	Beef * Beef			Beef * Dairy			Dairy * Dairy			Overall	
	Number	% Total	Conf	Number	% Total	Conf	Number	% Total	Conf	Total	Conf
2013	232,433	0.46	8.3	124,413	0.25	5.9	144,619	0.29	4.1	501,465	6.5
2014	253,674	0.44	8.2	138,946	0.24	5.9	180,679	0.32	4.0	573,299	6.3
2015	281,645	0.47	8.4	142,718	0.24	5.9	180,196	0.30	4.1	604,559	6.5
2016	268,683	0.45	8.3	167,002	0.28	5.8	164,643	0.27	4.0	600,328	6.4
2017	269,502	0.41	8.2	197,003	0.30	5.6	184,700	0.28	3.8	651,205	6.2

Average carcass conformation of suckler bred steers has stayed constant (R=). Conformation of dairy beef and dairy bred steers has declined slightly.

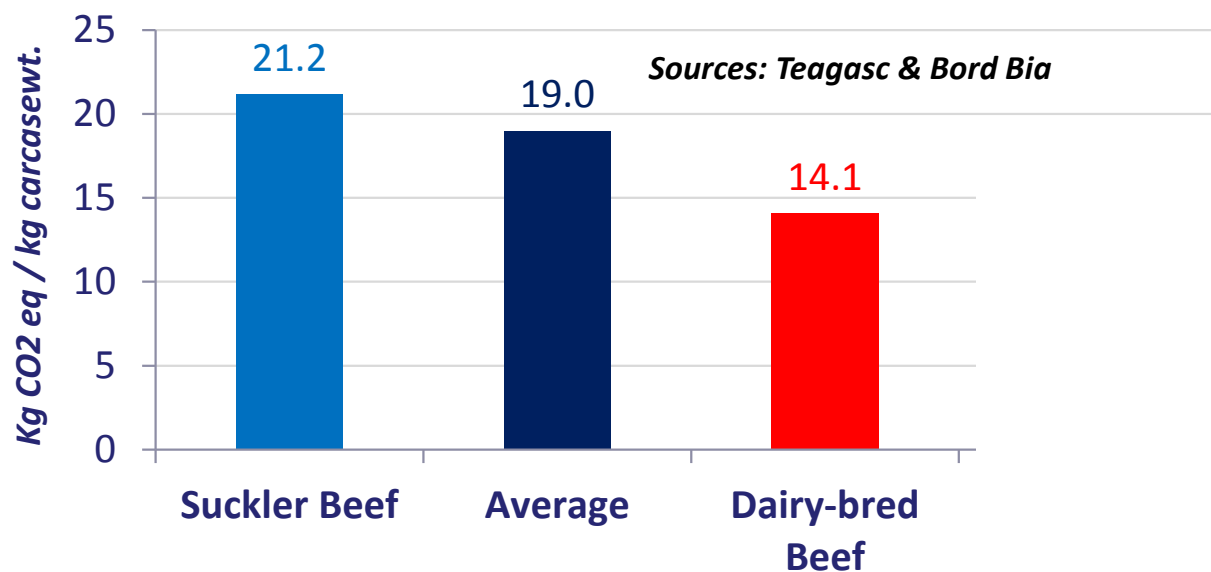
Combined with overall increase in % dairy beef steers, resulted in slight decrease in average carcass conformation.

Why are GHG emissions important?

Potential to produce more sustainably.

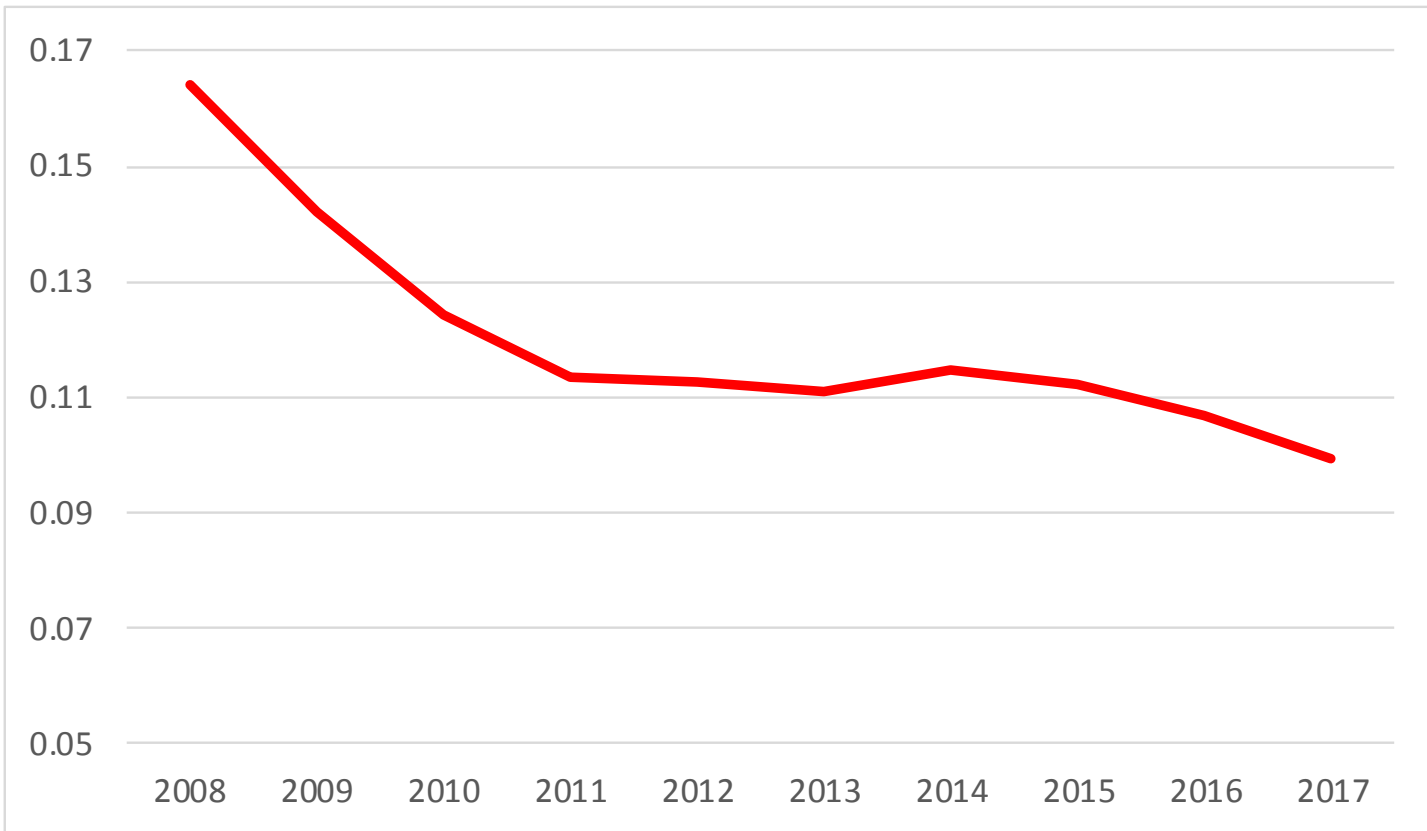
Environmental and financial benefits.

Average Carbon Footprint of Beef Production



Dairy Beef Systems are more climate efficient than suckler beef. Opportunity to carry increased numbers of productive animals.

Usage of non-pedigree beef bulls.



- Usage of non-pedigree beef bulls has declined. Now under 10%.
- Positive impact of BDGP and also ICBF GENÉ IRELAND Breeding Program strategy of focusing on within breed improvement.

Trends in Pedigree Beef Bull Registrations.

Year of birth	Ped males	Ped males sold/moved	Ped males sold/moved to dairy herd
2007	16,421	11,121	2,840
2008	17,495	10,965	2,690
2009	15,115	10,286	2,480
2010	13,922	10,650	2,732
2011	15,085	10,974	2,857
2012	15,766	10,774	2,800
2013	14,409	10,606	3,406
2014	15,978	11,970	3,824
2015	17,012	12,652	4,244
2016	17,256	<i>Not yet sold/moved</i>	<i>Not yet sold/moved</i>
2017	15,677	<i>Not yet sold/moved</i>	<i>Not yet sold/moved</i>
2018	4,608	<i>Not yet sold/moved</i>	<i>Not yet sold/moved</i>

- Steady increase in use of pedigree beef bulls. For example of the 17,012 pedigree beef bulls registered in 2015, 12,652 were sold/moved to another herd, of which 4,244 were to dairy herds.

Changes in Stars (May 2015 => Aug 2017)

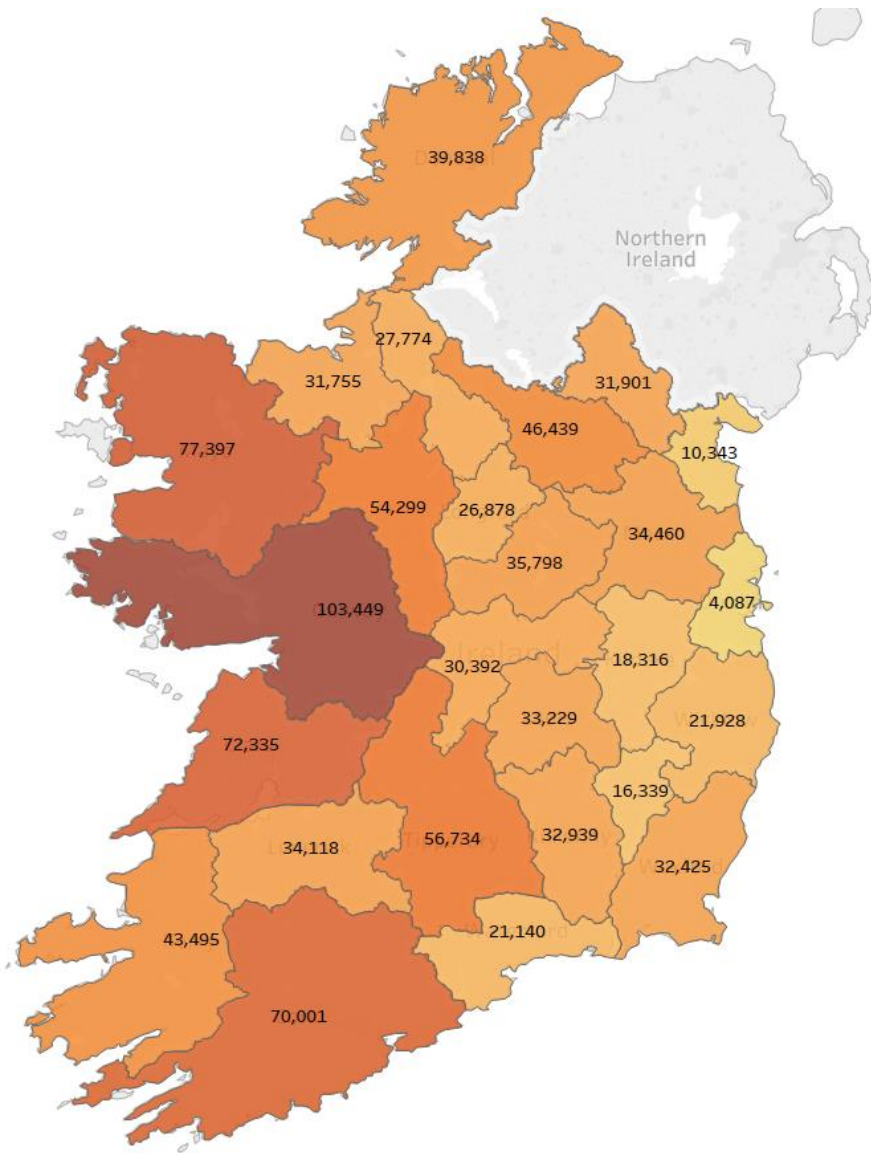
		Stars Aug 2017						
		1 star	2 star	3 star	4 star	5 star	No Stars	Total
Stars May 2015	1 star	6,346	2,626	1,461	946	559	26	11,964
	2 star	3,353	3,334	2,743	2,102	1,569	25	13,126
	3 star	1,850	3,043	3,445	3,309	2,881	14	14,542
	4 star	894	2,155	3,394	4,623	5,922	22	17,010
	5 star	223	664	1,433	2,934	12,843	16	18,113
	No Stars	1,714	2,665	3,382	4,017	5,278	3,457	20,513
	Total	14,380	14,487	15,858	17,931	29,052	3,560	95,268

4&5 stars in May 2015 35,123
 Still 4&5 stars in Aug 2017 26,322
 % total 74.9%

% moved from 5 star to 1 star 1.2%
 % moved from 5 star to 2 star 3.7%
 % moved from 5 star to 3 star 7.9%
 % moved from 5 star to 4 star 16.2%
 % are still 5 stars 70.9%

- 75% females still 4&5 stars. Ancestry data good for high heritability traits.
- Benefits of genomics especially relevant for lower heritability traits, e.g., fertility, milk, health, disease, GHG etc...

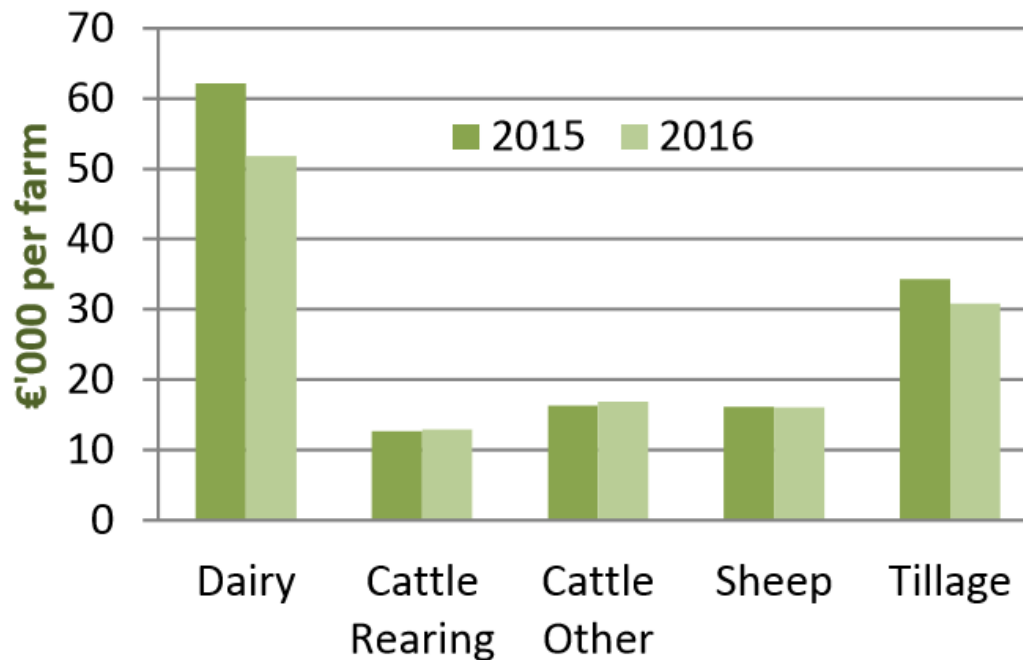
Trends in Suckler cow numbers.



- Total suckler cow numbers for 30 June 2017 were 1,007,809. Down from 1,018,209 in 2016 (- 1.1%).
 - Reductions more pronounced in West Ireland.
- Suckler cow slaughtering's increased significantly in 2017 (159,847 – up 8%).
- Reflected in suckler cow calving figures for year to date. Currently at 487k (up to May 1), down 6% for year to date.
- Suggest further reduction in size of suckler herd in 2018 (*expect drop of 4-5%*).

Average farm income.

Fig. 2: Average Family Farm Income
2015-2016



- Lack of family farm income a major factor for beef cattle sector.
- Beef cows are an important part of rural infra-structure.



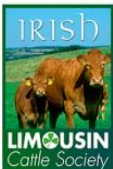
Our Farmer & Government Representation



Our AI & Milk Recording Organisations



Our Herdbooks



Acknowledging Our Members