



# Increasing Genetic Gain in Dairy Sample Discussion Group

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AgTech - it's in our DNA

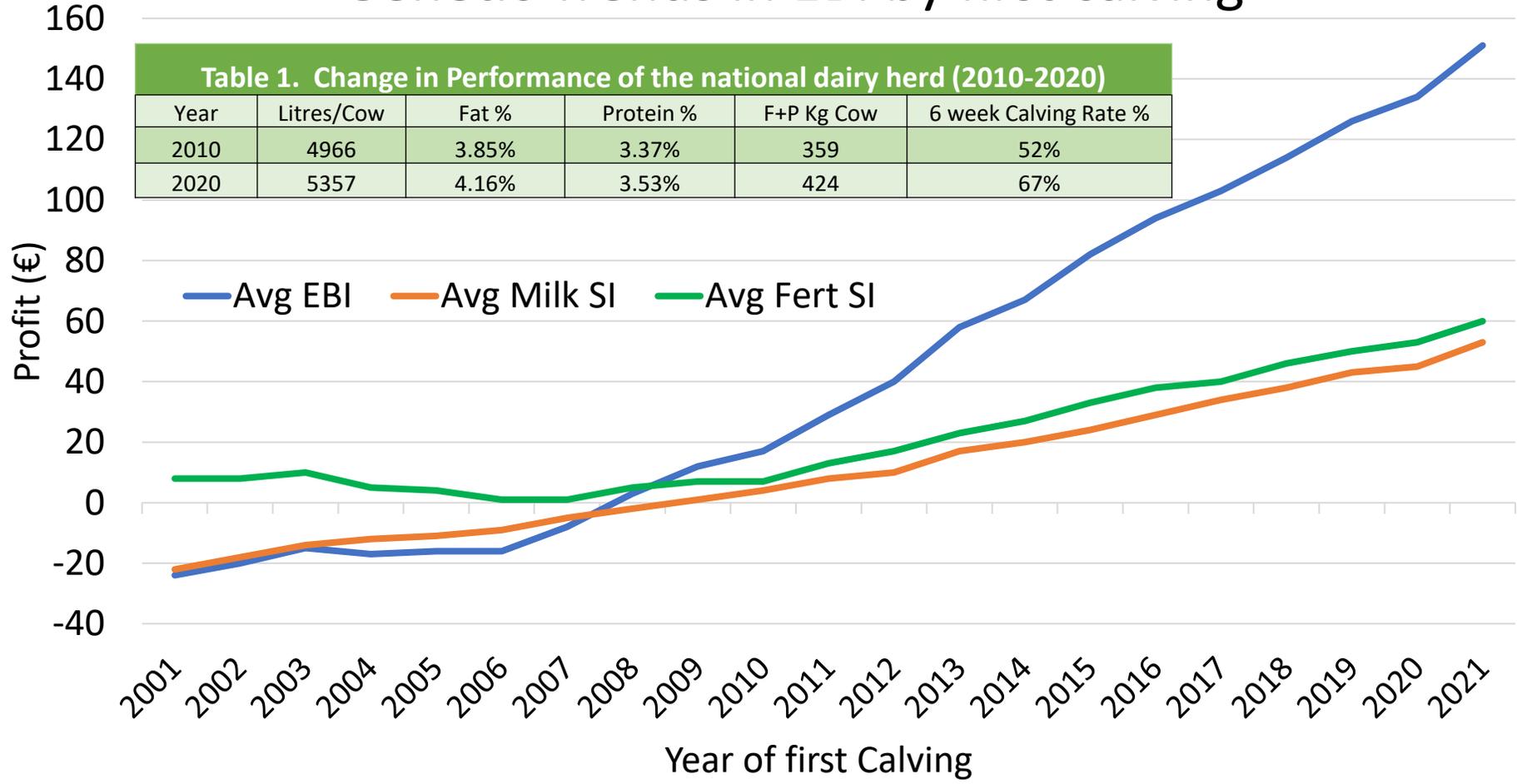
# Overview

- Group priorities for next 5-10 years
- Discussion Group Analysis;
  - EBI, milk solids & fertility trends
  - Dairy AI Bull usage
  - DBI & Beef AI usage
  - Sire Advice and Dairy Genomics
  - GENE IRELAND & Genotyping
  - Commercial Beef Value (CBV)
  - Future Developments
- Summary

# What has EBI delivered; National level?

## Genetic Trends in EBI by first calving

Table 1. Change in Performance of the national dairy herd (2010-2020)					
Year	Litres/Cow	Fat %	Protein %	F+P Kg Cow	6 week Calving Rate %
2010	4966	3.85%	3.37%	359	52%
2020	5357	4.16%	3.53%	424	67%



Average EBI of 1<sup>st</sup> calving heifers this (n=313k) = €151.

Rate of gain in EBI now €10/year

=> €284/lact or 5 cpl.

The cows you have now are better than the cows that you had 10 years ago!

Table 2. EBI group effect on lactation performance

	Elite	National Average
Fat %	4.47%	4.19%
Protein %	3.72%	3.55%
Kg Milk Solids/Cow	443	434
12 Week in-Calf rate	92%	81%

- System trial at Teagasc Moorepark.
- EBI's; Elite herd = €214, (Top 1%)
- National Ave herd = €129
- Meal fed = 0.5 t per cow per year.

Parameters	2016	2017	2018	2019	2020	2021
Kg Milk Solids/Cow	588	595	544	586	606	625
Submission Rate %	91	90	96	95	91	94.5
1st Service Conception Rate %	43	50	69	64	74	72
6 week Pregnancy Rate %	59	54	83	79	87	87
Empty Rate %	9	15	13	12	9	7

- Systems trial at UCD Lyons Research Farm.
- EBI of herd = €204 (Top 1%).
- Milk Sub Index= €69, Fertility Sub Index=-€81
- Meal fed = 1.5 t per cow per year.

**Key point; High EBI cows are delivering, regardless of system.**

# EBI is Delivering on the Ground

Key Performance Indicators (KPI's) broken down by Herd EBI

KPI Metric	No EBI	Bottom 20%	20-40%	40-60%	60-80%	Top 20%	Average
Average EBI	-	€61	€102	€121	€139	€165	€118
% Herds Milk Recording	9%	39%	35%	43%	60%	82%	49%
Milk Litres per Cow	4,723	5,364	5,146	5,268	5,500	5,648	5,337
Butterfat %	4.04%	4.01%	4.10%	4.16%	4.22%	4.36%	4.16%
Protein %	3.46%	3.43%	3.49%	3.53%	3.57%	3.66%	3.53%
Kgs Milk Solids per Cow	365	410	402	416	441	466	423
Calving Interval (days)	398	407	394	389	382	374	390
Six-Week Calving Rate	62%	56%	61%	65%	70%	79%	66%
Kg CO2 / Kg FPCM	1.08	1.04	1.00	0.98	0.95	0.90	0.98

- Herds in the top 20% on EBI compared with the average
  - are delivering 43kg more MS
  - have better fertility (CI -16 days, +13% 6wk calving)
- Herds in the top 20% on EBI produced 0.14 Kg lower carbon emission than herds in the bottom 20%.
- Genetic gain through improving EBI is a key contributor to the abatement of carbon on Irish dairy herds.

EBI is selecting for a more profitable and environmentally efficient cow for Irish farmers!

# Herd EBI for Discussion Group



## Discussion Group EBI Report (Printed 07/01/22)

	Top 1%	Top 5%	Top 10%	Top 25%	Av.
Herd EBI	194	175	167	150	129
Cows	236	207	193	167	131
Heifers 2020	253	226	214	194	168
Heifers 2021	276	247	234	212	185

Name	Herd ID	Cows with	Herd EBI €	Milk Sub Index		Fertility Sub		1st Lactation Animals			1 Year +			0-1 Year			Avg Yearly EBI Gain €
				€	%	€	%	No.	EBI €	Fert €	No.	EBI €	Fert €	No.	EBI €	Fert €	
		106	136	34	21	69	43	13	167	75	22	179	80	19	191	87	9.72
		357	171	57	26	71	33	107	172	66	157	193	78	82	213	86	6.51
		171	191	60	28	84	40	69	214	94	72	214	90	69	236	102	6.89
		76	157	55	32	61	35	18	186	74	23	190	68	21	221	87	9.82
		80	184	57	27	81	38	27	199	82	23	208	90	31	220	98	6.07
		218	149	61	33	46	25	44	164	57	43	179	53	58	199	69	8.01
		72	172	58	29	75	37	18	185	77	23	201	85	30	202	88	5.71
		77	163	53	28	70	37	21	162	65							
		83	157	50	27	63	34	15	157	66	12	199	82	16	216	91	10.12
		91	171	54	27	72	36	16	181	79	16	198	82	15	217	94	7.32
		139	167	61	30	64	32	32	189	76	33	183	76				
		140	148	49	28	65	37	31	174	73	34	175	81	42	204	89	8.4
		65	91	56	56	4	4	23	111	14	21	131	32	18	152	29	10.13
		138	160	44	24	77	41	31	172	81	30	194	85	36	215	95	8.94
		102	144	54	30	55	31	37	164	65	28	178	67	30	207	87	9.92
		94	159	53	29	69	38	30	167	77	32	171	75	31	213	91	6.91
		67	159	60	34	63	36	10	183	74	15	189	72	13	196	82	6.68
		44	157	50	28	66	37	15	177	74	16	190	79	10	203	86	7.97
<b>GROUP AVERAGE</b>		118	<b>158</b>	54	30	64	34	31	<b>174</b>	71	35	<b>187</b>	75	33	<b>207</b>	85	<b>8.07</b>

- Average EBI of cow herd is €158 with €64 from fertility.
- Good improvement for EBI and fertility sub-index across 1<sup>st</sup> Lactation (€174), In-calf heifers (€187) and calves (€207)
- Well done!

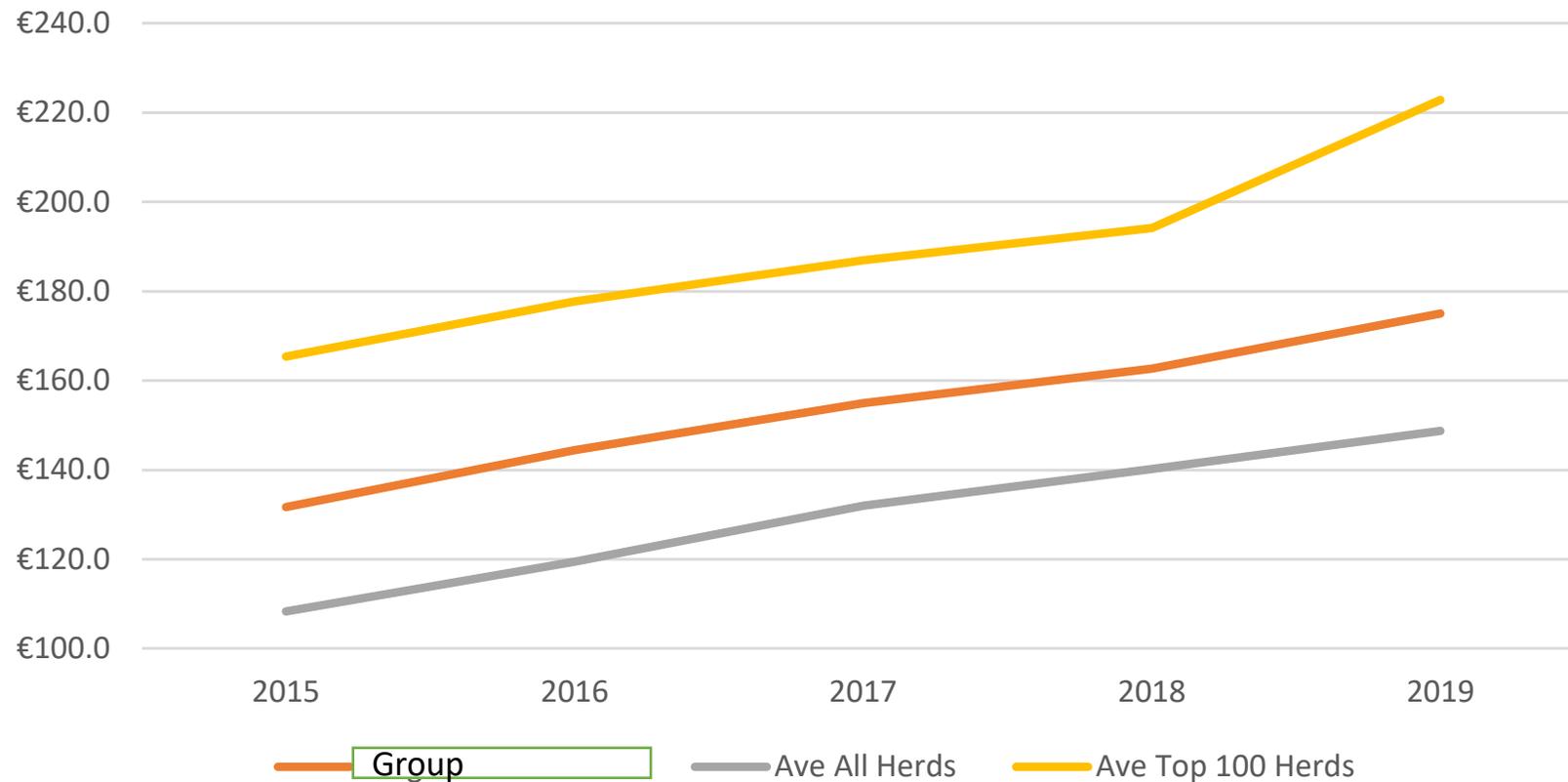
# EBI Gain – 1<sup>st</sup> calving replacement females

Herd ID	Name	Total Cows	N 2015	N 2016	N 2017	N 2018	N 2019	EBI 2015	EBI 2016	EBI 2017	EBI 2018	EBI 2019	Rate Gain
		106	22	21	6	4	10	€136.2	€149.7	€160.2	€144.6	€173.5	€14.0
		357	82	52	102	118	122	€156.7	€154.1	€160.7	€176.9	€171.4	€4.5
		171	57	69	57	32	70	€129.8	€130.5	€175.8	€188.2	€220.8	€23.3
		76	22	22	16	25	18	€118.9	€130.6	€134.4	€163.6	€188.3	€18.4
		80	27	22	27	27	26	€151.0	€176.9	€177.8	€179.9	€199.0	€11.3
		218	31	53	65	35	42	€132.9	€132.7	€154.0	€165.7	€164.2	€8.8
		72	27	23	28	22	23	€136.0	€173.8	€170.5	€179.2	€183.1	€11.0
		77	26	20	15	21	23	€138.4	€156.1	€149.6	€165.3	€162.1	€6.5
		83	28	10	15	13	14	€143.6	€133.5	€168.5	€167.9	€156.3	€4.9
		91	17	24	23	21	16	€148.0	€173.2	€166.7	€175.6	€181.6	€8.8
		139	26	29	27	30	33	€141.7	€160.4	€163.2	€176.4	€188.5	€11.9
		140	32	33	24	39	32	€98.8	€132.5	€126.7	€153.9	€172.8	€20.6
		65	29	9	22	12	23	€59.0	€85.3	€92.9	€86.1	€110.9	€13.5
		138	24	31	32	19	34	€142.4	€154.0	€161.8	€161.2	€170.8	€7.9
		102	11	21	19	16	36	€119.5	€110.7	€146.5	€149.0	€167.0	€12.8
		94	31	18	17	19	25	€133.5	€155.0	€169.1	€161.2	€172.2	€9.5
		67	15	11	14	10	10	€153.3	€141.8	€167.1	€171.4	€183.0	€8.6
		44	13	8	11	19	12	€130.5	€148.2	€142.4	€161.7	€184.5	€14.4
Group Average		117.8	28.9	26.4	28.9	26.8	31.6	€131.7	€144.4	€154.9	€162.7	<b>€175.0</b>	<b>€11.7</b>

- Rate of EBI Gain => Best assessed by examining average EBI of 1<sup>st</sup> calving replacement females, entering herd each year, based on birth year. Average rate of gain for group is €11.7, with best herds over at >=€12.

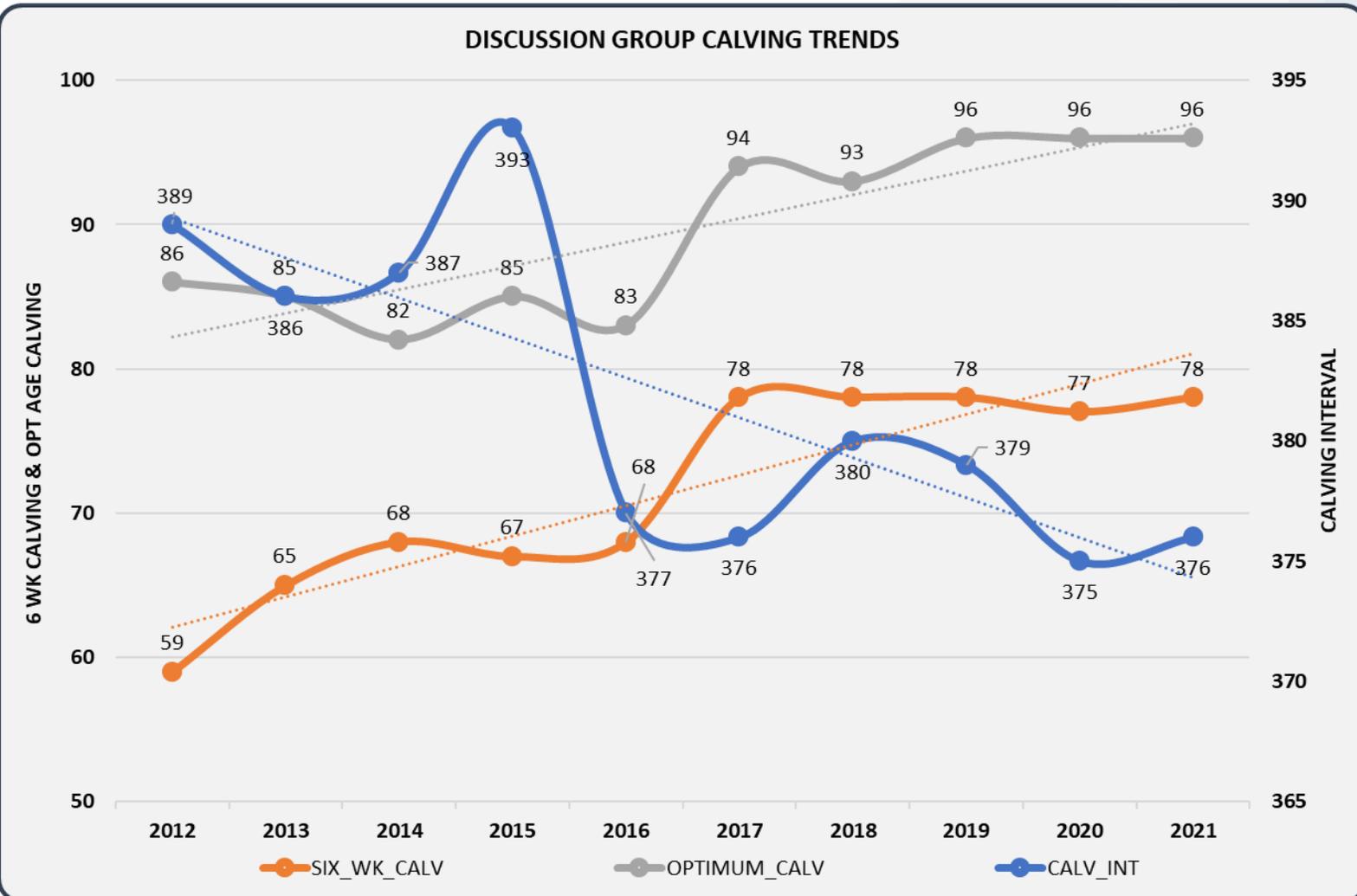
# Herd EBI Comparison for Group.

Fig 1. COmparison of Group EBI performance with National Herd.



- Comparison based on 8020 herds that have had 3 replacements calving each year for last 5 years.
- Average EBI of 1<sup>st</sup> calving heifers for group is above the average of All herds (€175 vs €149). Average for top 100 is €223 (min is €213).
- Rate of gain is above for group (€11.7 vs €8.2 for national average). Top 100 herds have achieved €13.4.
- How has this level of herd EBI and rate of gain translated into actual performance?

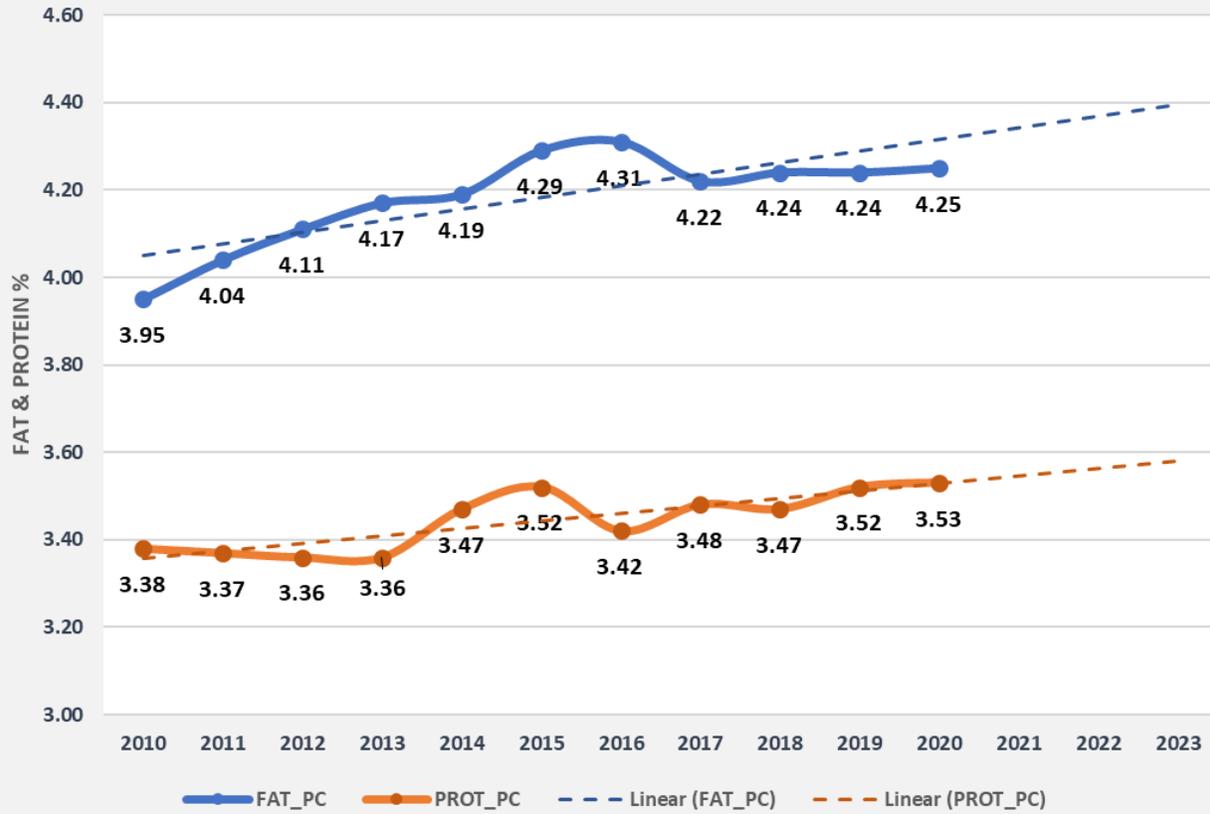
# Discussion Group Fertility Data



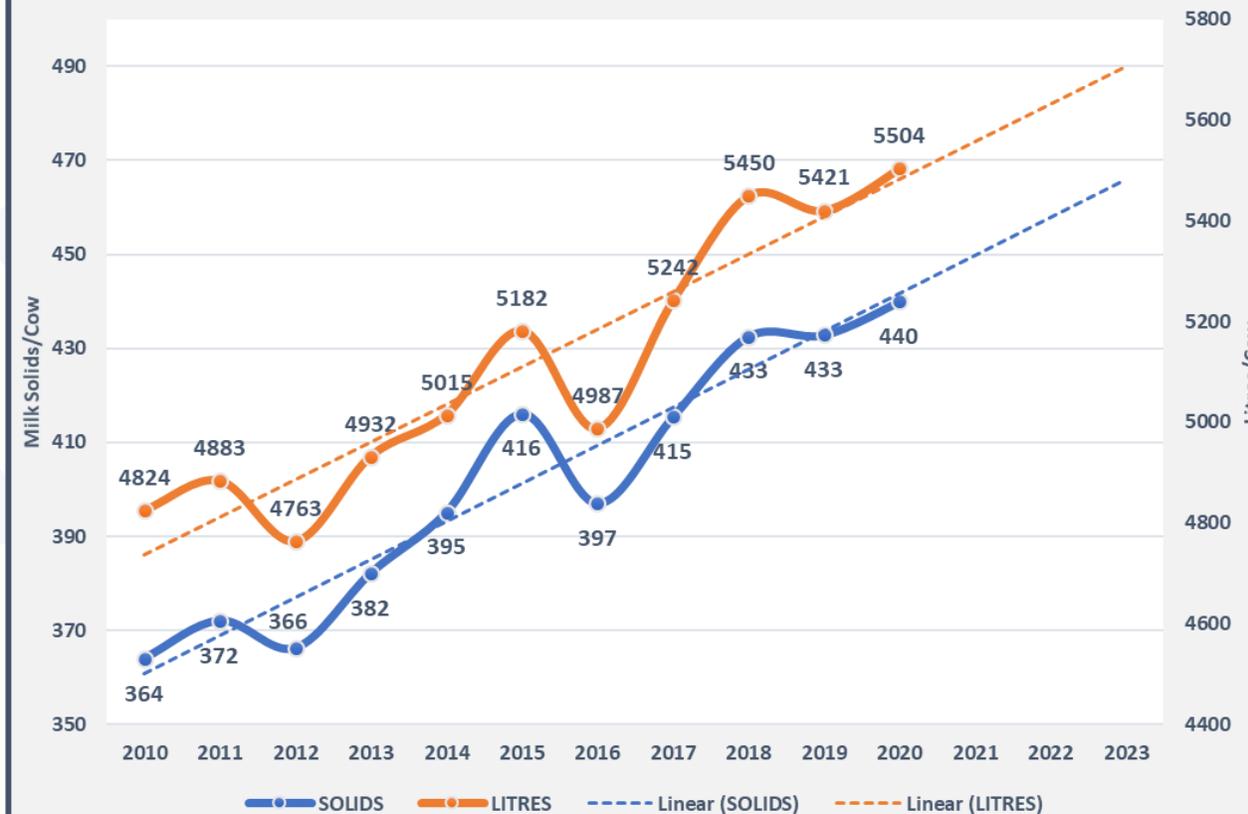
Year	Cows Calved	Repl. Rate	Average Parity	% Not Calved
2012	87	27	3.2	5.6
2013	92	29	3.1	4.8
2014	92	24	3.1	7.7
2015	107	26	3.1	2.6
2016	115	25	3.1	2.8
2017	116	25	3.2	3.3
2018	119	22	3.3	2.7
2019	125	21	3.4	3.4
2020	123	21	3.5	3.6
2021	132	23	3.4	3.6

# Discussion Group Co-Op Data

### Discussion Group Fat & Protein %



### Discussion Group Milk Solids & Ltrs/Cow



# Discussion – Past performance.

- EBI Trends?
- Average performance of group EBI's?
- Link with priorities?
- Others.....?

# Discussion Group Dairy AI Usage 2021

Herd	NAME	Straws	Avg. Team EBI	Avg. Team Fert
		66	€189	€78
		688	€279	€125
		444	€315	€148
		91	€290	€129
		-	-	-
		294	€210	€66
		108	€286	€132
		111	€286	€125
		88	€288	€133
		85	€291	€132
		212	€302	€149
		195	€290	€135
		33	€206	€50
		224	€293	€127
		28	€306	€136
		88	€256	€94
		52	€277	€125
		93	€282	€133
<b>Grand Total</b>		<b>2,900</b>	<b>€279</b>	<b>€123</b>

Average EBI of Top 75 Bulls on ICBF Active Bull List (Nov. 2021)  
EBI: €271 Fertility: €123

- 123 different AI Bulls used across the Group
- Highest EBI Bull - FR6484 RIVERSIDE PIVOTAL 874 €367
- Lowest EBI Bull - SI6927 STURMWIND €37
- Top 10 most used Bulls (Wt. Avg. EBI €272/Fert. €119)

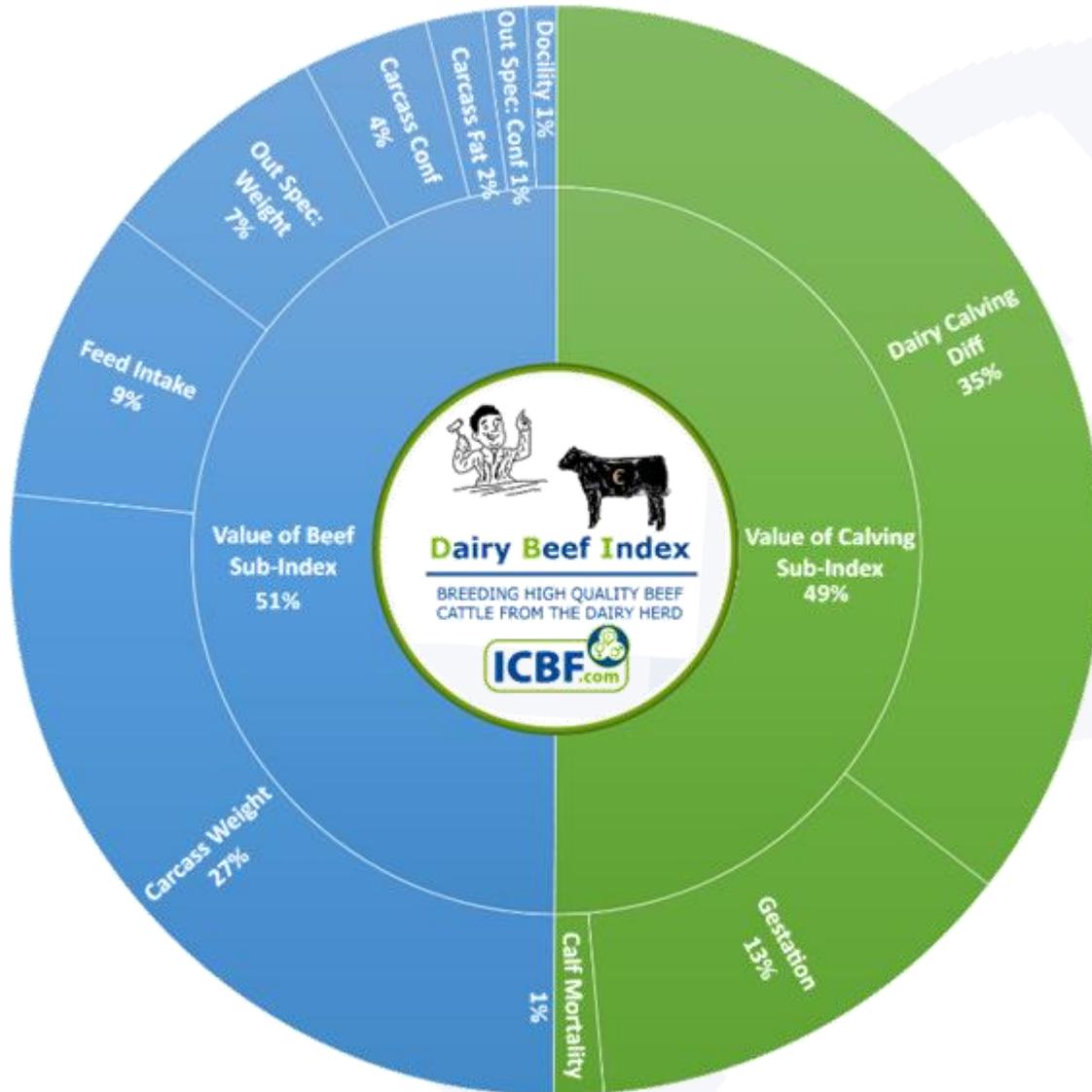
	CODE	NAME	STRAWS	EBI	FERT
1	FR4547	(IG) DOONMANAGH SEVILLE	139	€294	€139
2	FR5530	(IG) RATHLANNON ESMONDE SRM	129	€283	€133
3	FR5515	(IG) STONEPARK SERGI SRM	118	€294	€148
4	FR7014	(IG) DEANS GROVE SADIO SRM	101	€318	€167
5	FR6853	(IG) KNOCKENRIGHT CHESSMAN	100	€311	€137
6	ZSP	PRIESTS SIERRA	98	€170	€44
7	HDJ	(IG) BRIDESTREAM HAROLD	98	€237	€92
8	FR4728	(IG) KILFEACLE PIVOTAL	89	€306	€117
9	FR5884	(IG) BALLINGEAR SUZUKI	76	€295	€137
10	JE4155	PUKETAWA KING CONNACHT JG	72	€170	€40
			<b>Wt Avg</b>	<b>€272</b>	<b>€119</b>

# Using High EBI Bulls Equally.

Herd ID	Name	Total Cows	Dairy F	By AI Sire	%	By SB	%	By Unk Sire	%	AI Bulls	Top Bull	Calves Top	%	Calves Top3	%
		106	14	14	100%	0	0%	0	0%	10	FR4726	3	21%	7	50%
		357	155	149	96%	4	3%	2	1%	30	OKT	16	10%	40	26%
		171	79	65	82%	14	18%	0	0%	12	FR4728	18	23%	40	51%
		76	22	22	100%	0	0%	0	0%	7	FR4728	7	32%	13	59%
		80	36	36	100%	0	0%	0	0%	8	FR5905	8	22%	20	56%
		218	69	69	100%	0	0%	0	0%	5	ZSP	28	41%	60	87%
		72	36	29	81%	0	0%	7	19%	14	FR2424	4	11%	10	28%
		77	23	23	100%	0	0%	0	0%	7	FR2424	6	26%	14	61%
		83	28	28	100%	0	0%	0	0%	7	FR4728	6	21%	16	57%
		91	18	18	100%	0	0%	0	0%	10	FR4337	3	17%	8	44%
		139	67	67	100%	0	0%	0	0%	13	FR4510	13	19%	32	48%
		140	56	56	100%	0	0%	0	0%	13	FR4482	8	14%	23	41%
		65	14	14	100%	0	0%	0	0%	3	FR5656	7	50%	14	100%
		138	54	40	74%	14	26%	0	0%	10	FR4547	10	19%	21	39%
		102	30	30	100%	0	0%	0	0%	8	FR4788	7	23%	18	60%
		94	34	32	94%	0	0%	2	6%	5	FR4728	11	32%	24	71%
		67	13	13	100%	0	0%	0	0%	4	FR4760	6	46%	12	92%
		44	11	11	100%	0	0%	0	0%	6	FR4548	3	27%	8	73%
Group Average		117.8	42.2	39.8	96%	1.8	3%	0.6	1%	<b>9.6</b>		9.1	<b>25%</b>	21.1	58%

- Analysis of AI bred heifer calves born in Spring 2021 => On average farmers are using teams of bulls (8.6 on average) but still using 27% to the “top” bull. Group figures are 9.6 and 25% respectively. Area for further improvement by group?

# Use the Dairy Beef Index (DBI)



- The DBI ranks beef bulls, for use in the dairy herd, according to their genetic merit for calving & carcass performance.
- Expressed in euros, each €1 increase in DBI can be interpreted as a €1 expected increase in profit for that bull's progeny.
- What does the DBI select for?
  - High € values for calving sub-index
    - Shorter gestation lengths
    - Easy calving
    - Less calf mortality
  - High € values for beef sub-index
    - High carcass weight & conformation
    - Less feed consumption
    - Low carcass fat

# Discussion Group Beef bred calves born in 2021

Herd	Name	Total 2021 Calves born	No. Beef Calves 2021	% Beef Calves	% Beef Stockbull	% Beef AI	% Un-recorded Sires	No. of Beef Sires	Avg. DBI	Avg DBI BEEF SI
		112	71	63	56	44		10	€28	€46
		404	99	25		98	2	13	€75	€103
		220	46	21	98	2		6	€78	€29
		82	38	46		58	42	8	€75	€91
		116	45	39		84	16	4	€85	€41
		220	37	17	73	27		5	€30	€31
		92	19	21		58	42	7	€53	€62
		95	41	43	95	5		3	€45	€51
		89	40	45	18	83		7	€75	€58
		95	45	47		100		3	€46	€34
		161	42	26	64	29	7	5	€91	€47
		143	32	22		100		3	€84	€96
		63	24	38		100		4	€96	€77
		159	49	31		100		5	€55	€36
		117	51	44	31	67	2	5	€92	€85
		89	32	36		97	3	5	€78	€41
		68	41	60		100		18	€80	€61
		51	21	41		86	14	1	€98	€22
<b>GROUP TOTAL</b>		<b>2376</b>	<b>773</b>	<b>33</b>	<b>26</b>	<b>69</b>	<b>5</b>			

- 48% of Dairy Beef calves have no sire recorded!
- Use a range of sires including bulls suitable for older/bigger cows where calving diff isn't as big an issue

Average DBI of Top 75 Bulls on ICBF Dairy-Beef Active Bull List (Nov 2021) = €98 (€87 Beef SI)

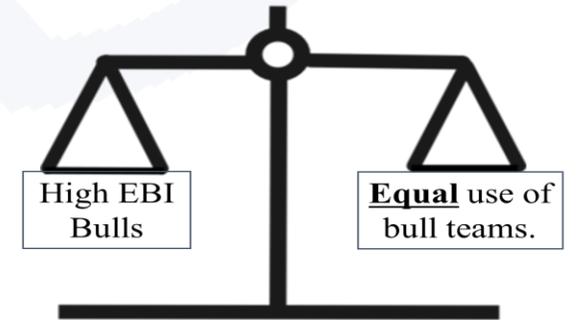
# Sire Advice Standard & Plus

**SIRE ADVICE**  
Manually Enter Bulls

START

**SIRE ADVICE PLUS**

START



- Sire Advice will assist you make more informed breeding decisions for your herd.
- Select a team of bulls based on your own breeding objectives.

HerdPlus EBI Scorecard	Your Herd	National Average	National Top 10%	Your National Rank	Star Rating <sup>1</sup>
<b>Herd EBI</b>	€134	€118	€156	75%	****
Milk Sub-Index (Milk, Fat & Protein)					
Fertility Sub-Index (Calving Interval & Survival)					
Calving Sub-Index (Gestation, Calving Difficulty)					
<b>Beef Sub-Index (Carcass Weight, Conformation &amp; Fat)</b>	€-13	€-10	€-6	23%	**
Maintenance Sub-Index (Cow Liveweight)	€13	€13	€19	52%	***
Management Sub-Index (Milking speed & Temperament)	€2	€1	€3	72%	****
Health Sub-Index (SCC, Mastitis, & Lameness)	€1	€3	€5	24%	**

13 out of 18 herds in the group ran sire advice.  
Challenge for the group to get everyone to run it this year 😊

## Guidelines for Bull Team Usage

Herd Size (Incl. Heifers)	Recommended minimum number of Bulls
0-50	7
	7
	8
	10
200-250	11
250-300	12
300-350	13
350-400	14

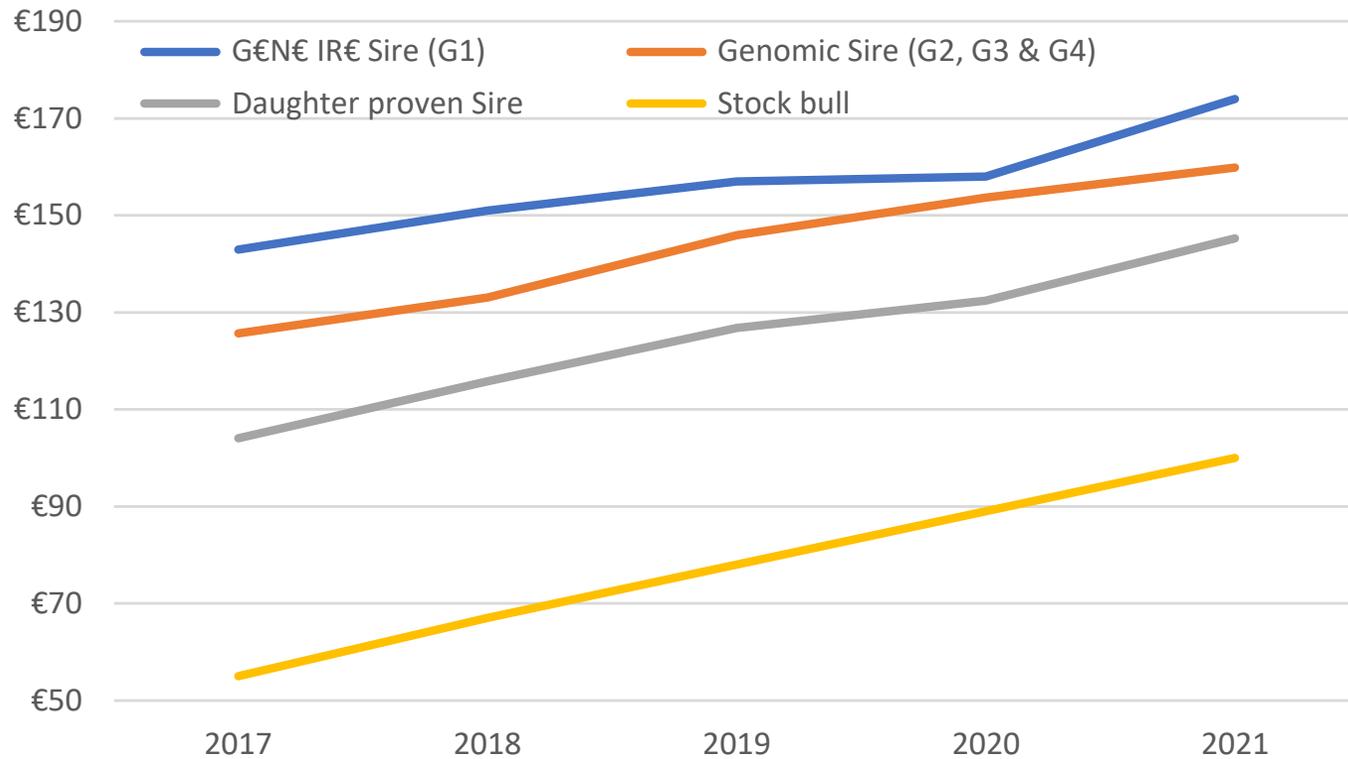
- The mating program generates the best matings to maximise the genetic gain in your herd.
- Minimises variation between Milk and Fertility while eliminating any Inbreeding risk.
- All Sire advice matings can be uploaded to AI technician handhelds & printed on breeding charts.

# Discussion - Sires Used.

- Average EBI?
- Relative to stated goals/targets?
- Equal usage of bull teams?
- Dairy-Beef Index (DBI)?

# Younger GS or Older Daughter Proven bulls?

Fig 1. Ave EBI of AI bred rep females, by Sire Type



T1. Counts of AI bred rep females, by Sire Type

Category	2017	2018	2019	2020	2021
Heifer is a progeny off a =>					
- G€N€ IR€ Sire (G1)	11,396	18,730	20,234	15,005	12,329
- Genomic Sire (G2, G3 & G4)	108,030	119,086	119,978	141,718	137,015
- Daughter proven Sire	72,377	63,977	60,822	56,889	75,281
Total	191,803	201,793	201,034	213,612	224,625
% genomics	62.3%	68.3%	69.7%	73.4%	66.5%

T2. Ave Survival of AI bred rep females, by Sire Type

Category	2017	2018	2019	2020	2021
Heifer is a progeny off a =>					
G€N€ IR€ Sire (G1)	54.3%	66.0%	77.9%	87.2%	95.7%
Genomic Sire (G2, G3 & G4)	51.9%	65.1%	77.9%	87.3%	95.8%
Daughter proven Sire	50.8%	63.8%	76.3%	86.3%	95.5%

- Slight drop in usage of GS bulls in Spring 2020, based on 2021 born females?
- Progeny of younger GS sires have higher EBI (~€20 across 5 years) & last longer!

- Average EBI of 1<sup>st</sup> calving progeny from stock bulls (calved in 2021) was €100. Consistently ~€80 behind AI bulls, yet still some ~25% of dairy replacements are by stock bulls....!

# Usage of younger GS bulls.

Herd ID	Name	Cows	NUM	G1	G2	G3	G4	G5	% G1	% GS
		106	95	3	42	14	12	24	3%	75%
		357	309	55	38	31	26	159	18%	49%
		171	154	74	28	29	11	12	48%	92%
		76	76	5	36	18	13	4	7%	95%
		80	76	4	30	20	7	15	5%	80%
		218	194	46	43	20	7	78	24%	60%
		72	66	3	22	25	9	7	5%	89%
		77	62	3	24	26	6	3	5%	95%
		83	77	9	18	18	6	26	12%	66%
		91	90	7	34	25	8	16	8%	82%
		139	136	36	36	27	10	27	26%	80%
		140	118	9	38	42	5	24	8%	80%
		65	62	1	1	3		57	2%	8%
		138	124	31	48	24	9	12	25%	90%
		102	87	6	38	20	6	17	7%	80%
		94	85	4	27	41	3	10	5%	88%
		67	65		23	29	8	5	0%	92%
		44	44		18	15	6	5	0%	89%
Group Average		117.8	106.7	18.5	30.2	23.7	8.9	27.8	<b>11%</b>	<b>77%</b>

- Analysis of Sire Types used in National Herd => On average, 6% of cows on farms are by G1 bulls (G€N€ IR€) and 64% are by genomic bulls (i.e., year 1, 2, 3 & 4 genomic bulls).
- Group figures are 11% and 77% respectively.
- Group figures are good, but is there an opportunity to use more G1 (G€N€ IR€ Sires) in the future?

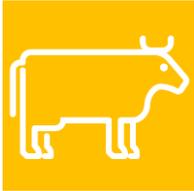
# Relationship between herd EBI and preparedness to use younger GS sires.

% progeny by G1 Sires	Herds	Cows	% by G1 Sires	% by GS Sires	Gen Int Sires	Count 2018 Heifers	EBI 2018 Heifers
- Greater 20%	487	140.0	29%	83%	47.7	31.1	€164.6
- 10 to 19%	893	142.8	14%	73%	56.9	30.6	€151.5
- 5 to 9%	1113	131.5	7%	69%	61.4	26.4	€145.7
- 1 to 5%	1850	121.5	2%	64%	66.8	23.3	€140.2
- Zero %	1847	98.6	0%	54%	74.3	19.1	€133.7
Overall	6190	121.0	6%	65%	65.1	24.3	€142.8

- Analysis based on 6190 herds that had  $\geq 30$  AI bred cows and  $\geq 5$  AI bred replacements this year (i.e., born in 2018 and calves in 2020).
- % progeny from G1 sires = 6%. % progeny from GS sires = 65%. Ave EBI 2018 born heifers and calved in during 2020 = €142.
- Clear relationship between herds preparedness to use young GS sires (i.e., G1 bulls) and herd EBI. Is this an area for the group to consider in the future?

# Why G€N€ IRELAND?

## National Breeding Programme



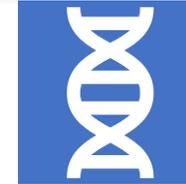
Perception that G€N€ IRELAND bulls are “cheap test bulls”. NO, they are the latest generation of highest EBI young bulls!

## Spring 2022



To test >80 bulls in partnership with AI companies. The expected EBI of bulls is **€320**. Note current ICBF Active Bull List is **€270**.

## Accurate Genetic Evaluations



To provide accurate genetic evaluations for Irish Dairy bulls new genetics for farmers through a co-ordinated progeny programme.

## Benefits for Farmers



Attractive incentives for participants, e.g., reduced priced semen, reduced price genotyping & sire advice.



# Discussion – Genomics & GENE IRELAND.

- Group usage of genomics?
- Daughter proven versus genomic?
- Participation in GENE IRELAND?
- Others....?

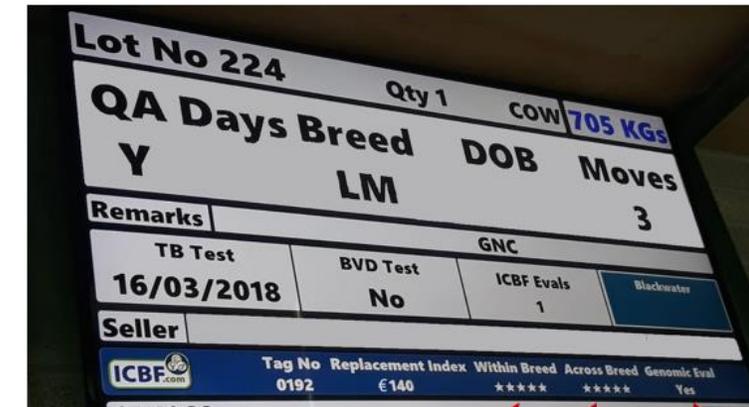
# Commercial Beef Value (CBV)-What is it?

- CBV is a new tool which gives farmers an insight into the genetic merit of an animal to help them make more informed purchasing decisions.
- Online profile for HerdPlus displaying CBV € value, stars and trait values
- CBV looks at an animal's direct genetic merit => trait values expressed as EBV's.
- What animals will have a CBV
  - Suckler males & uncalved females
  - Dairy males
  - Dairy x Beef males & uncalved females
- Plan to roll out on mart boards

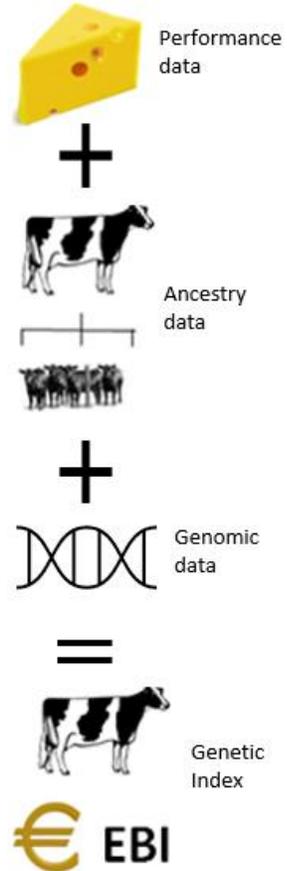
What is in the CBV?

- Terminal Index less the calving traits (calving diff, gestation and mortality).
- Carcass weight, conf and fat, feed intake and docility.

Commercial Beef Value						
Value €	Star Ranking (Across Breed)	Carcass Weight (kg)	Carcass Conformation (1-15 scale)	Carcass Fat (1-15 scale)	Feed Intake (kg DM/day)	Docility (1-5 scale)
317	★★★★★	70.6	4.26	-1.14	-0.58	0.02
283	★★★★★	63.2	4.30	-0.80	-0.38	0.02
277	★★★★★	67.6	3.62	-0.96	0.02	0.26
275	★★★★★	58.8	3.76	-1.32	-0.52	0.26
274	★★★★★	66.4	3.78	-0.74	-0.04	0.14
268	★★★★☆	59.2	4.00	-1.14	-0.34	0.06
262	★★★★☆	58.0	4.04	-0.70	-0.28	0.22
259	★★★★☆	66.8	2.78	-1.06	0.02	0.04
254	★★★★☆	50.4	4.50	-0.80	-0.54	0.12
247	★★★★☆	61.0	2.66	-1.16	-0.14	0.08
246	★★★★☆	65.6	3.66	-0.70	0.56	0.12
246	★★★★☆	60.6	2.92	-0.62	-0.22	-0.08



# Current priority areas; Genotyping Females



**Dairy Genomic Evaluation Profile** - Dairy animals in the herd with genomic evaluation are only displayed. Help Help PDF

**Genomic Service**

Dairy Females Genotyped

Count of Females

Legend: Genotyped (Green), Total Count (Blue)

5th Lactation (+) 4th Lactation 3rd Lactation 2nd Lactation 1st Lactation 2018 Calves 2017 Calves

Genomic EBI Milk SI Fertility SI Calving SI Beef SI

Showing 1 to 289 of 289 entries Hide filters Excel PDF Print

Fb Animal Number From Date To Date Sex From To From To

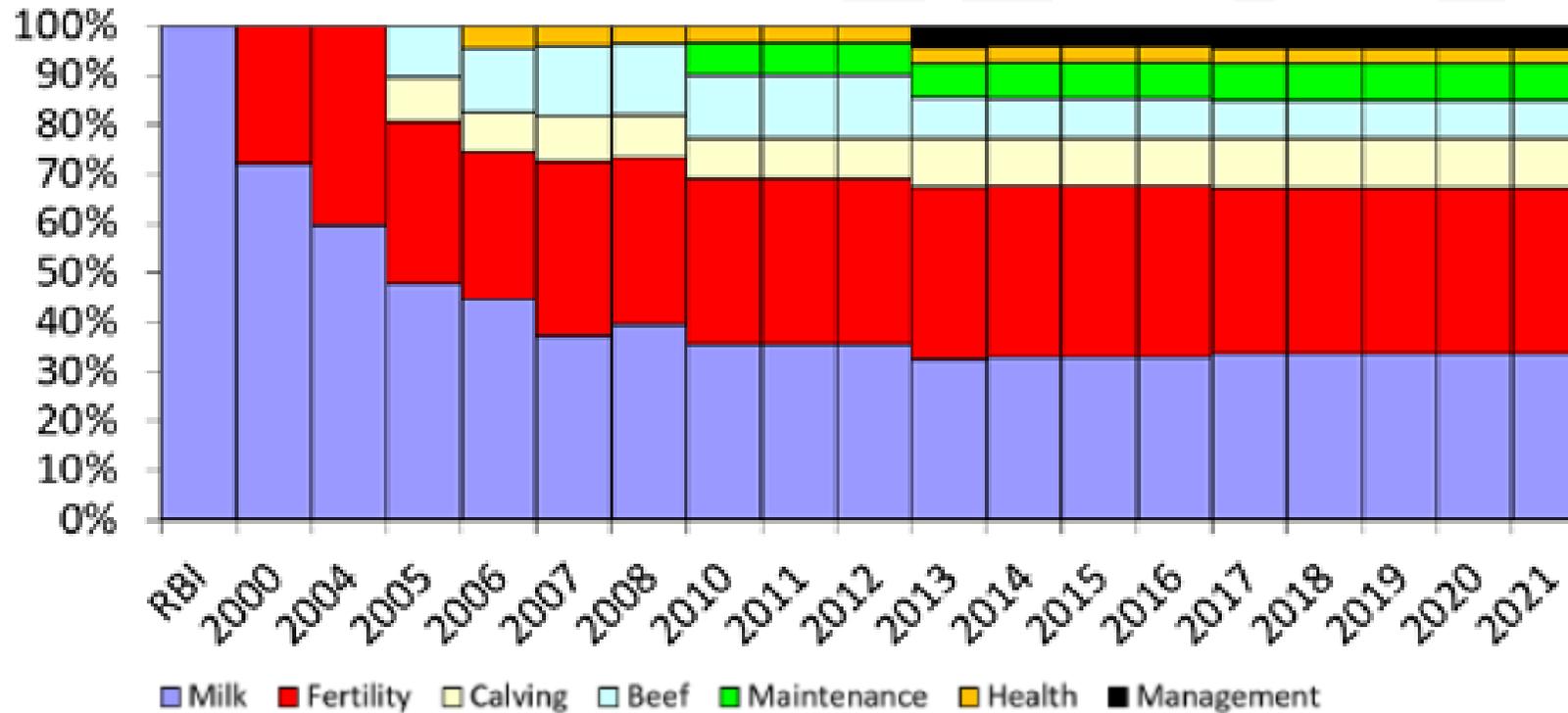
Animal Details					Current Official Proof							Difference from Non-Genomic Proof						
Fb	Animal Number	Birth Date	Sex	Lact	EBI €	Rel %	Milk €	Fert €	Maint €	Health €	Other €	EBI €	Rel %	Milk €	Fert €	Maint €	Health €	Other €
2483	372222061972483	06-APR-18	F		241	52	113	89	15	0	23	-4	21	12	-4	2	-2	28
2482	372222061962482	02-APR-18	F		201	52	57	97	12	1	34	28	22	-1	26	2	3	35
2481	372222061952481	27-MAR-18	F		169	52	52	64	5	2	46	-26	20	0	-26	-3	-4	39

Cost is €22/animal => Up to 4:1 return on investment

- Increase EBI reliability ~25%
- Correct any parentage errors ~10-15%
- Heifers can change by +/- €90
- More accurate breakdown of sub-indexes = more accurate mating's
- DNA Registration- Can we transition our National cattle herd to DNA based calf registration over next 5 years?

# What's next For the EBI & new research

Relative emphasis on different sub-indexes within the EBI 2020-2021



## Improvements for 2022?

- Research is well underway to now redefine new fertility traits for the future.
- Environmental efficiency – new carbon sub-index
- Sexed Semen
- Update to Health Sub Index
  - Free Health events app available for free download

# Dairy Discussion Groups (Key Performance Indicators)

No.	Key Performance Indicator (KPI)	Top Group Figure
1	Herd EBI	€171
2	2020 Calves EBI	€207
3	EBI Replacement Heifers	€191
4	Rate of EBI Gain	€16.6
5	Calving Interval (days)	368
6	Six Week Calving Rate	85%
7	Calved between 22-26 months	98%
8	Replacement Rate	17%
9	Average Herd Parity	3.9
10	Percentage Not Calved	0.7
11	Butterfat %	4.83%
12	Protein %	3.85%
13	Litres/Cow	7,148
14	Fat + Protein Kg/cow	566
15	EBI 2020 Inseminations	€265
16	Number of bulls used in 2020	16.9
17	Percentage born to top AI Bull	16%

- The performance of over 100 groups were analysed across Key Performance Indicators (KPI's).
- The analysis shows the top group KPI figure achieved of all these discussion groups. KPI's are strong signals for greater efficiency, sustainability, and profitability at farm level.
- This table provides a great opportunity for dairy discussion groups to undertake some benchmarking and identify areas that can be improved within their own Discussion Group
- How does your Discussion Group Compare?

# Summary & Actions for the Sample Group for 2022

- Good progress re: EBI, rate of gain & herd performance. Well done!
- Areas for future action/consideration;
  - Move to 100% AI, including beef AI.
  - More high EBI bulls evenly on your herd => Sire Advice can greatly help this.
  - Consider using more young GS bulls => participation in G€N€ IRELAND.
  - Consider genotyping females => opportunity to accelerate genetic gain for your herd.
- Best wishes for the Spring 2022 calving & breeding season.



# Our Farmer & Government Representation



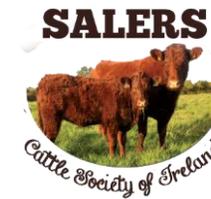
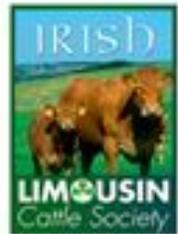
An Roinn Talmhaíochta,  
Bia agus Mara  
Department of Agriculture,  
Food and the Marine



# Our AI & Milk Recording Organisations



# Our Herdbooks



# Acknowledging Our Members