

# Sourcing the right stock

Ashleigh Fennell

Evan Kelly

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Animal Group	Num of Cows	Milk Kg	Fat %	Prot %	Surv% CI Days	Milk % Cont	Fertility % Cont	Calv % Cont	Beef % Cont	Maint % Cont	Mgmt % Cont	Health % Cont	EBI €
<b>Cows with EBI</b>	<b>81</b>	<b>39</b>				<b>€ 45</b>	<b>€ 74</b>	<b>€ 34</b>	<b>€ -12</b>	<b>€ 12</b>	<b>€ 1</b>	<b>€ 3</b>	<b>€ 158</b>
Missing EBI*	2	6.6	0.09	1.9		24.8%	41%	18.8%	-6.4%	6.5%	0.7%	1.8%	
Total Cows	83	5.9	0.08	-4.0									
<b>1st Lactation</b>	<b>14</b>	<b>119</b>				<b>€ 55</b>	<b>€ 74</b>	<b>€ 37</b>	<b>€ -6</b>	<b>€ 7</b>	<b>€ 3</b>	<b>€ 2</b>	<b>€ 172</b>
		7.3	0.05	1.6		29.6%	40.3%	19.9%	-3.3%	3.9%	1.7%	1.3%	
		8.5	0.08	-4.3									
<b>2nd Lactation</b>	<b>67</b>	<b>22</b>				<b>€ 43</b>	<b>€ 74</b>	<b>€ 33</b>	<b>€ -13</b>	<b>€ 13</b>	<b>€ 1</b>	<b>€ 4</b>	<b>€ 155</b>
		6.5	0.10	2.0		23.7%	41.2%	18.5%	-7.1%	7.1%	0.6%	1.9%	
		5.3	0.08	-4.0									

# Evan Kelly

Animal Group	Num of Cows	Milk Kg Fat Prot	% %	Surv% CI Days	Milk % Cont	Fertility % Cont	Calv % Cont	Beef % Cont	Maint % Cont	Mgmt % Cont	Health % Cont	EBI €
<b>Cows with EBI</b>	<b>119</b>	<b>-33</b>			<b>€ 59</b>	<b>€ 59</b>	<b>€ 35</b>	<b>€ -22</b>	<b>€ 22</b>	<b>€ 5</b>	<b>€ 1</b>	<b>€ 157</b>
Missing EBI*	0	9.8	0.20	1.7	29.2%	29%	17.1%	-11.1%	10.7%	2.3%	0.6%	
Total Cows	119	6.1	0.13	-2.9								
<b>1st Lactation</b>	<b>119</b>	<b>-33</b>			<b>€ 59</b>	<b>€ 59</b>	<b>€ 35</b>	<b>€ -23</b>	<b>€ 22</b>	<b>€ 5</b>	<b>€ 1</b>	<b>€ 157</b>
		9.8	0.20	1.7	29.2%	29%	17.1%	-11.1%	10.7%	2.3%	0.6%	
		6.1	0.13	-2.9								

## 2. Dairy Youngstock

<b>2020 Calves</b>	<b>54</b>	<b>-44</b>			<b>€ 83</b>	<b>€ 60</b>	<b>€ 35</b>	<b>€ -35</b>	<b>€ 33</b>	<b>€ 4</b>	<b>€ 0</b>	<b>€ 181</b>
Missing EBI*	0	14.8	0.30	2.1	33.2%	23.9%	14%	-14%	13.2%	1.7%	0%	
Total Calves	54	8.3	0.18	-2.7								

# Milk Solids

- What is milk solids?
  - How do you calculate?
  - Cow doing 25 litres @ 3.5% protein and 4% fat
    - $25 \times 1.03$  (converting to kg) = 25.75kg
    - $3.5\% + 4\%$  (MS %) = 7.5%
    - So 7.5% of the weight is milk solids
    - $25.75 \times 0.075 = 1.93\text{kg MS}$

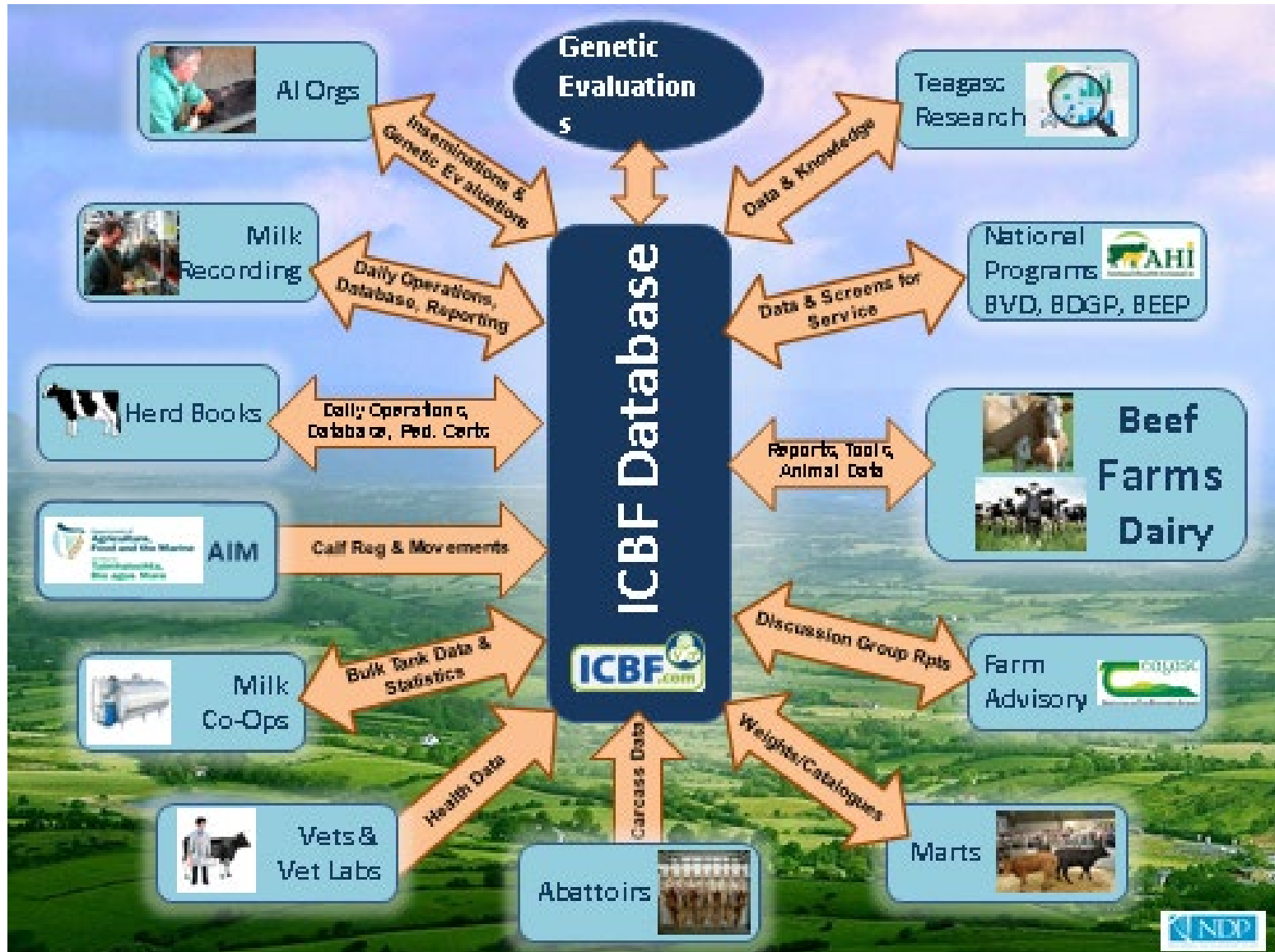
# Challenge?

- Which brings in more money?
  - 500 kg MS cow
    - One high volume low MS %
    - The other low volume high MS%
  - ANSWER: Both deliver 500kg!

# A+B-C

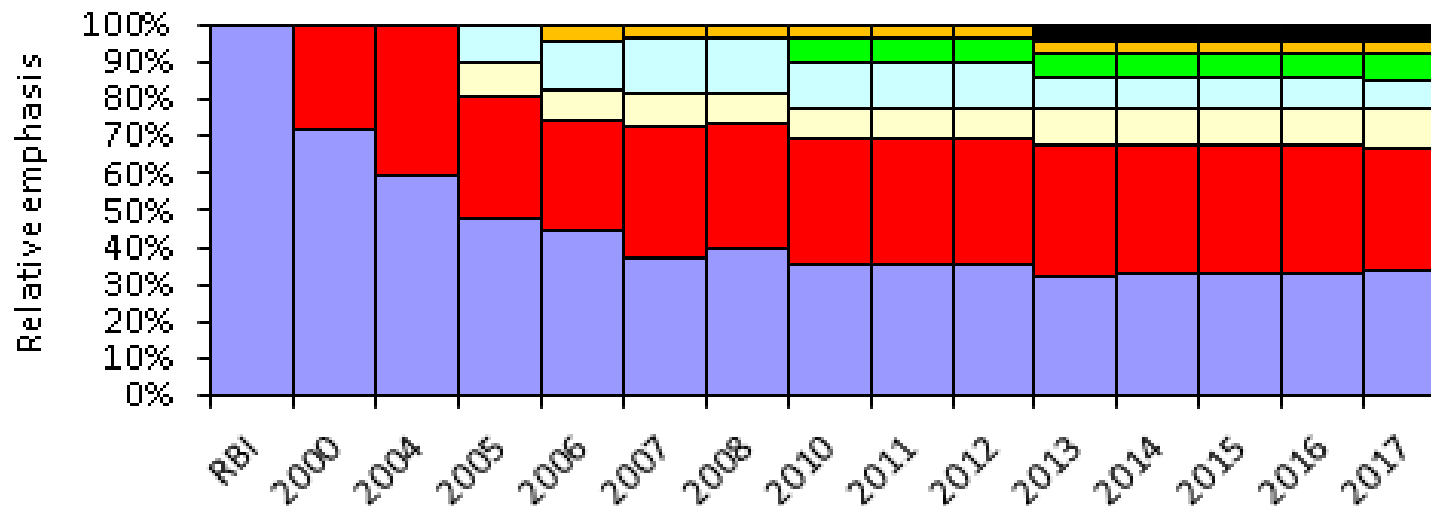
- All co-op's paying on solids
    - Critically important to Irish dairy Industry
    - How does it work?
- A = Protein
- B = Fat
- C = Volume adjustment

# EBI





## Evolution of the EBI (2000–2018)



■ Milk
 ■ Fertility
 ■ Calving
 ■ Beef
 ■ Maintenance
 ■ Health
 ■ Management

- The ideal Irish dairy cow; High milk solids (+500 kg MS/cow/year) & excellent fertility (CI = 365 days).

# EBI (€)

- €100 EBI – that cow will leave €100/lactation more than BASE COW
- Predicts what will be profitable cow in the future
- Made up of Sub index
  - Milk& fertility ~ 70%
  - Calving,beef,maint,mgmt&health ~ 30%

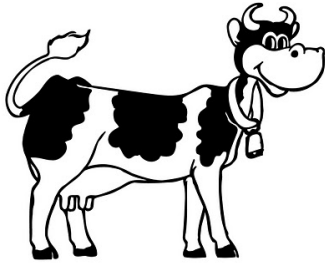
# Base Cow

## 1. EBI Base change

**Table 2:** Base change in milk production and fertility for first calvers

First Lact.	Base for production (305-day)			Base for fertility	
	Milk yield	Fat/Prot KG	Fat/Prot %	Calv. Int.	Survival
Old base	5,192kg	196kg/171kg	3.79%/3.30%	404 days	80.0%
New base	5,743kg	224kg/195kg	3.90%/3.39%	400 days	82.5%

# Parental Average

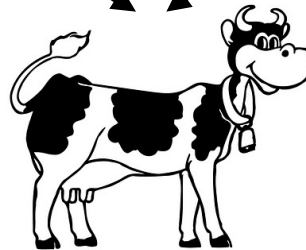


Cow €100 EBI



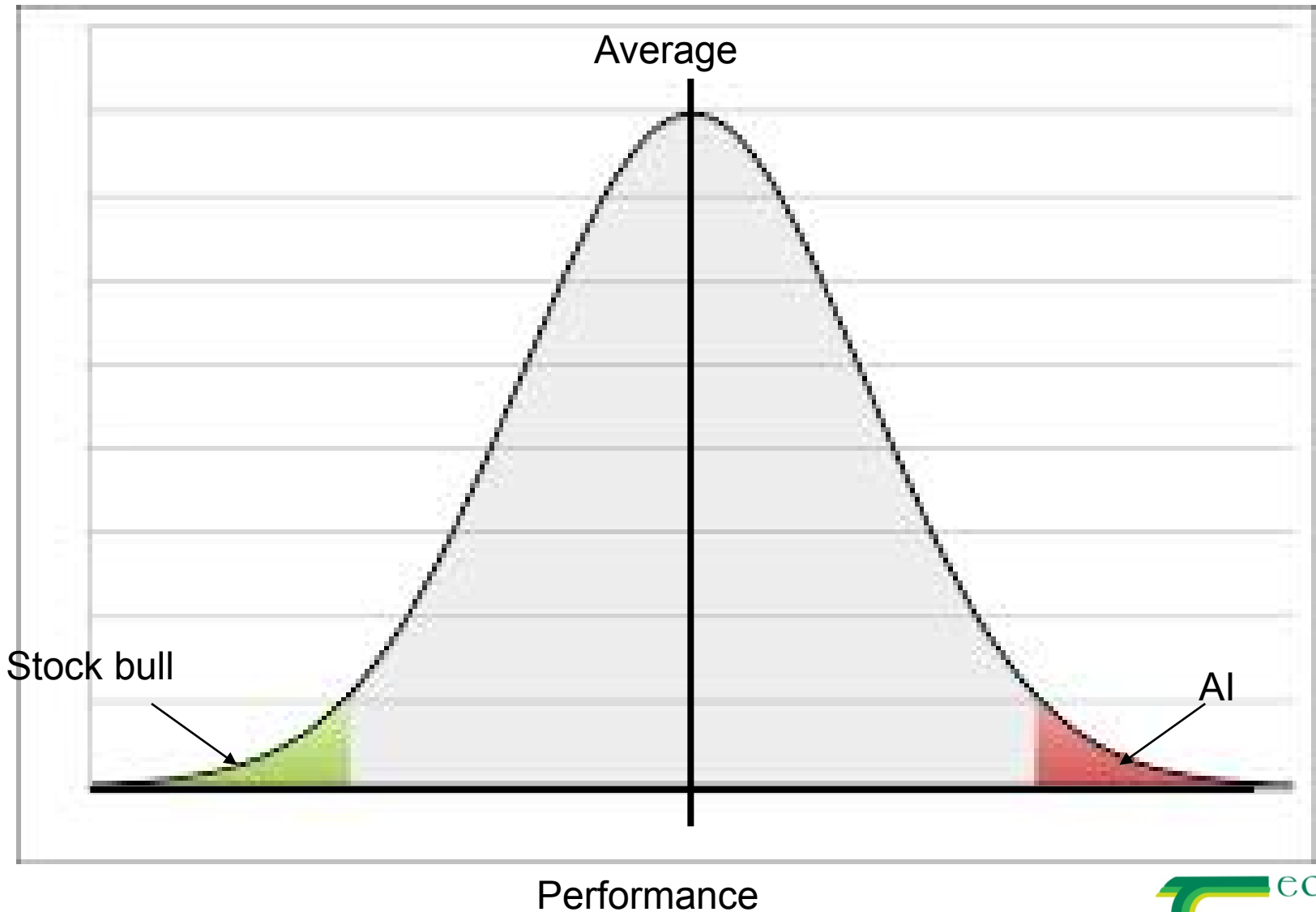
Bull €200 EBI

**Heifer EBI**  
mother & fathers  
EBI and divide by 2

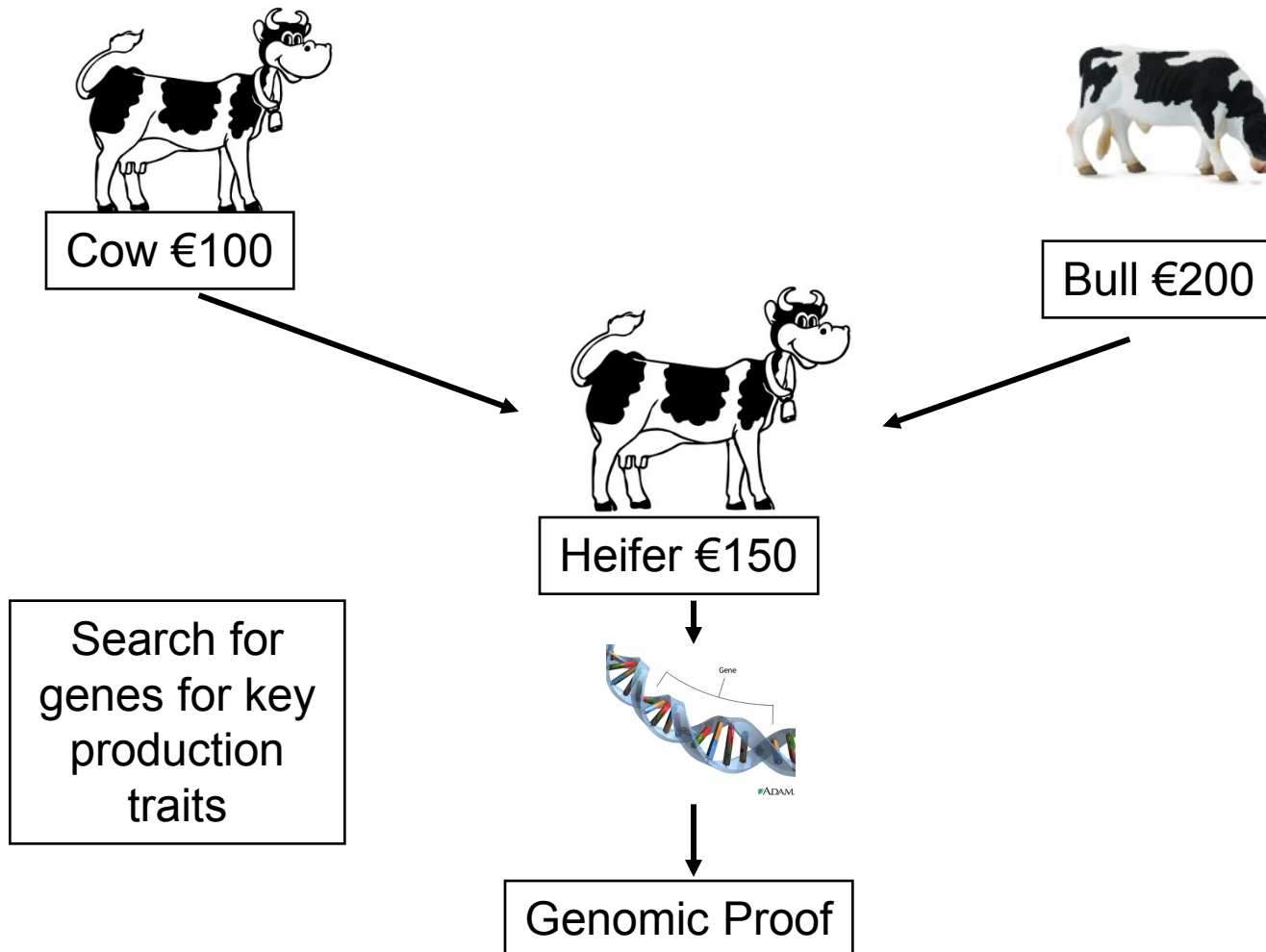


Heifer €150 EBI

# Stock bull V AI



# Genomics



# AI Selection

- Breeding is a slow process
  - Half the gain is lost in parental average
  - Only bringing in 20-25% heifers annually
  - Can take years to see significant gain
- Always Maximise the gain
- Select hard on key traits that will give you a more profitable herd

# Does EBI work?



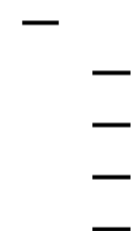
## Economic Breeding Index (EBI) Herd Summary Aug 2013

LoCall 1850 600 900

Herd Owner:

Herd Number:

Data Extracted:



### 1. EBI Herd Summary

Average EBI for all dairy cows with; (i) a known sire (or milk recorded progeny with a known sire) and (ii) are currently on your farm.

\* Number of animals that are missing an EBI result

Animal Group	Num of Cows	Milk Kg		Surv% CI Days	Milk	Fertility	Calv	Beef	Maint	Mgmt	Health	EBI €
		Fat	%		% Cont	% Cont	% Cont	% Cont	% Cont	% Cont		
Cows with EBI	174	64			€ 41	€ 99	€ 28	€ -9	€ 11	€ 2	€ 0	A
Missing EBI*	0	8.3	0.12	2.6	21.4%	52%	14.7%	-4.7%	5.8%	1.3%	0.2%	€ 173
Total Cows	174	6.1	0.08	-5.8								

C



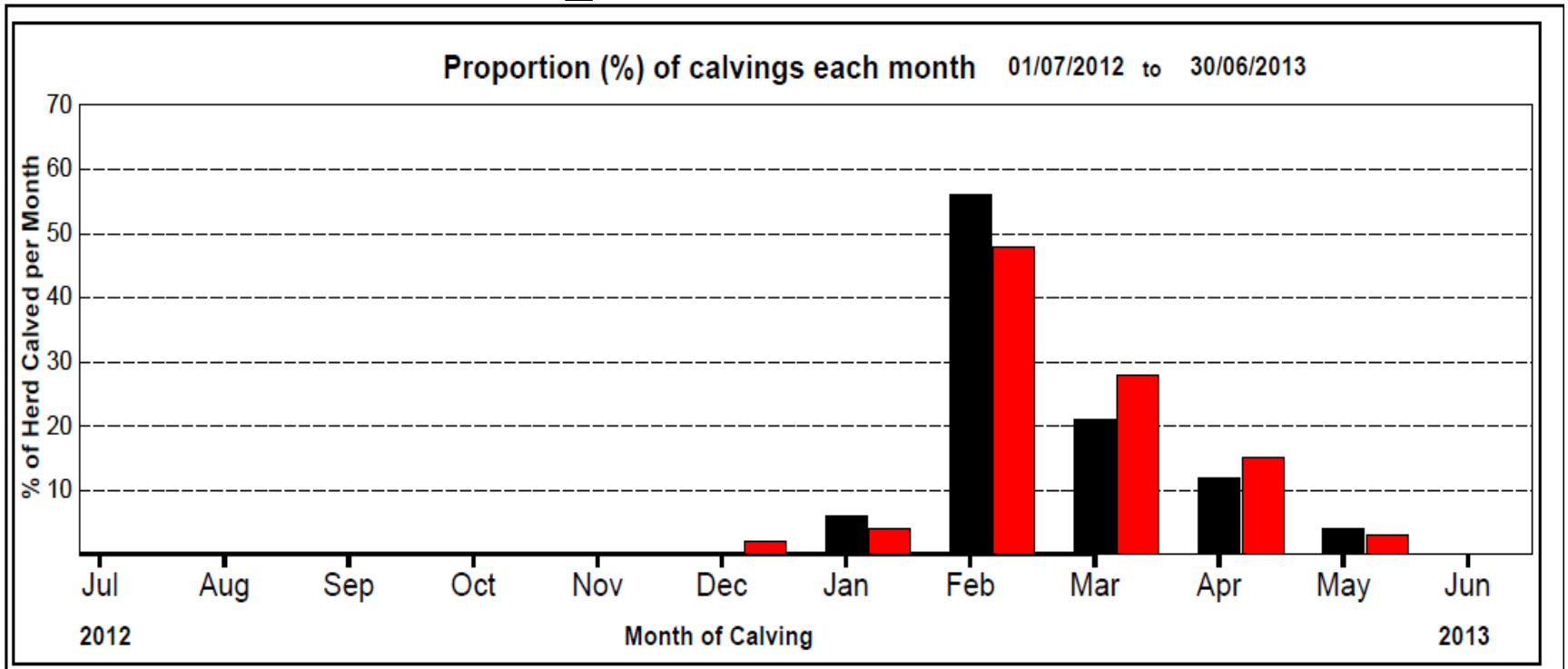
# Heifers

Animal Group	Num of Cows	Milk Kg		Surv% CI Days	Milk	Fertility	Calv	Beef	Maint	Mgmt	Health	EBI €
		Fat %	Prot %		% Cont	% Cont	% Cont	% Cont	% Cont	% Cont		

## 2. Dairy Youngstock

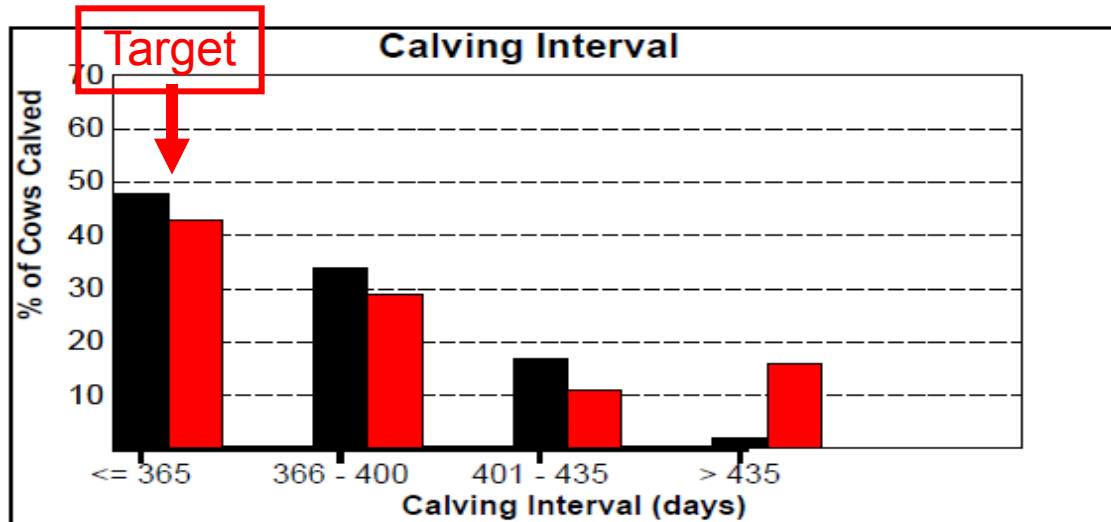
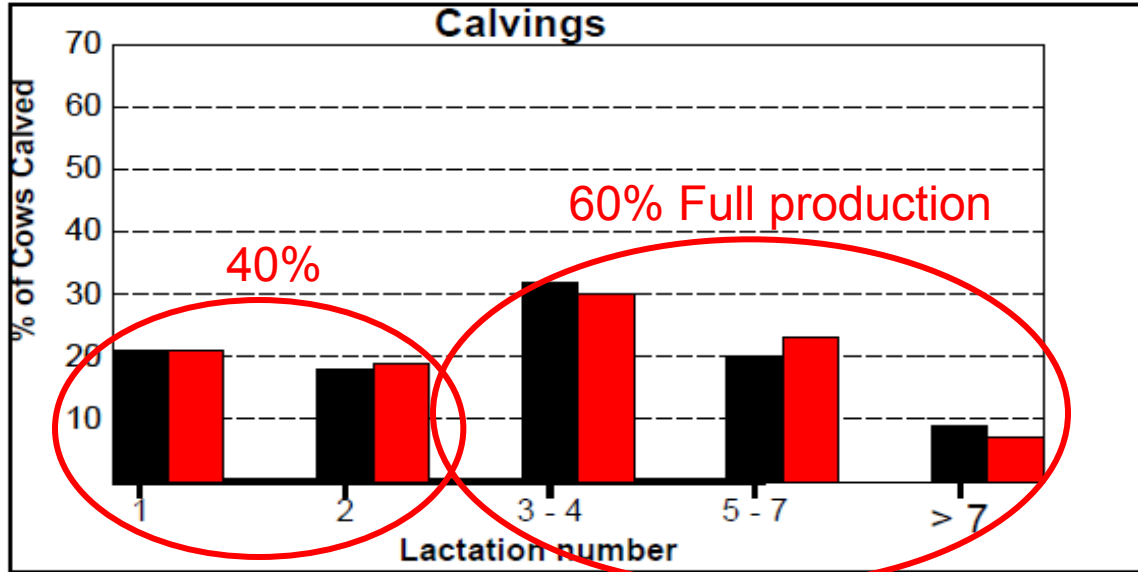
13 Calves	68	55			€ 48	€ 102	€ 36	€ -9	€ 12	€ 2	€ 0	€ 190
Missing EBI*	11	10.0	0.16	2.7	22.9%	48.9%	17%	-4.5%	5.7%	0.9%	-0.1%	
Total Calves	79	6.8	0.1	-5.9								
12 Calves	73	115			€ 50	€ 93	€ 34	€ -5	€ 6	€ 2	€ 1	€ 179
Missing EBI*	0	9.8	0.11	2.5	26.3%	48.6%	17.8%	-2.9%	3.2%	0.9%	0.3%	
Total Calves	73	8.1	0.09	-5.3								

# Fertility Performance



■ Current years data

■ Last years data



Group	Number of cows recorded	Average days in milk	Test Day / Yield to date / 305 day yield							Ave SCC Test>250 No. Treats	EBI (Euros)
			M Kg	M Gall	F%	P%	L%	F Kg	P Kg		
Overall	174	222	18.5	3.9	4.33	3.78	4.65	0.8	0.7	174	173
			5748	1228	3.81	3.37	4.74	219	194	27	
			6966	1488	3.93	3.45	4.74	274	241	14	

1st Lactation	37	241	14.7	3.1	4.50	3.88	4.75	0.66	0.57	134	168
			4468	954				74	154	4	
			5276	1127	4.01	3.52	4.84	212	186	1	
2nd Lactation	32	223	17.8	3.8	4.34	3.85	4.64	0.78	0.69	151	168
			5514	1178		3.43	4.72	205	189	4	
			6652	1421		3.51	4.72	257	234	0	
3rd Lactation	26	221	19.2	4.1	4.46	3.86	4.64	0.86	0.74	254	170
			6094	1302	3.95	3.38	4.73	241	206	5	
			7332	1566	4.08	3.47	4.73	299	254	0	
4+ Lactation	79	214	20.3	4.3	4.24	3.70	4.64	0.86	0.75	168	179
			6329	1352	3.76	3.33	4.73	238	210	14	
			7764	1658	3.88	3.41	4.73	301	264	13	

Full Production

# Lifetime production

- Herd average of 3 lactations per cow
  - 6,000l at full production
  - $6000 \times 67\% = 4020$
  - $6000 \times 85\% = 5100$
  - Combined lifetime production of 15,120l
  - Average 5,040l/cow
- Herd average of 5 lactations per cow
  - Same Calculation
  - Combined Lifetime production of 27,120l
  - Average 5,420l/cow

# Milk Performance

**Table 3: Lakeland/ICBF Performance Score Card**

	Your Herd	Lakeland Average	Lakeland Top 10%	Your Rank out of 100	Your Star Rating <sup>1</sup>
<b>Milk performance for 2012 (Jan - Dec) based on Lakeland data</b>					
<b>Fat + Protein (Kg/cow)</b> Average Fat and Protein yield per cow for your herd	440	338	454	87%	* * * * *
<b>Litres per Cow per Day</b> Avg litres of Milk per cow from Jan - Dec 2012	14.95	12.4	16.5	77%	* * * *
<b>Fat % to end December 2012</b> Weighted average Fat % from Jan - Dec 2012	4.3	3.98	4.2	96%	* * * * *
<b>Protein % to end December 2012</b> Weighted average Protein % from Jan - Dec 2012	3.52	3.29	3.43	97%	* * * * *
<b>Average Milk Price (cpl) Incl. VAT</b> Average milk price received from Jan - Dec 2012, (Includes Bonuses/Penalties, Excludes Levies)	39.3	32.9	34.7	100%	* * * * *
<b>SCC (,000 cells/ml)</b> The weighted average Somatic Cell Count for Jan - Dec 2012	116	252	142	95%	* * * * *

Difference in price over base is worth  
€350/cow or €59,885 over the herd

# Sourcing Stock

- Minimum numbers of herds
- Match vaccination protocols (primary dose)
  - BVD
  - IBR
  - Salmonella
  - Lepto
- Should test for PI
- Dose on arrival
- Should quarantine if possible

**Table 3: Lakeland/ICBF Performance Score Card**

	Your Herd	Lakeland Average	Lakeland Top 10%	Your Rank out of 100	Your Star Rating
<b>Milk performance for 2015 (Jan - Dec) based on Lakeland data</b>					
<b>Fat + Protein (Kg/cow)</b> Average Fat and Protein yield per cow for your herd	513	375	482	95%	* * * * *
<b>Litres per Cow per Day</b> Avg litres of Milk per cow from Jan - Dec 2015	15.28	13.66	17.6	69%	* * * *
<b>Fat % to end December 2015</b> Weighted average Fat % from Jan - Dec 2015	5.01	3.99	4.24	100%	* * * * *
<b>Protein % to end December 2015</b> Weighted average Protein % from Jan - Dec 2015	3.93	3.4	3.56	100%	* * * * *
<b>Average Milk Price (cpl) Incl. VAT</b> Average milk price received from Jan - Dec 2015, (Includes Bonuses/Penalties, Excludes Levies)	36.1	29.9	31.5	75%	* * * *
<b>SCC (,000 cells/ml)</b> The weighted average Somatic Cell Count for Jan - Dec 2015	130	197	102	20%	*

249kg MS/cow difference  
Worth €996/cow

**Table 3: Lakeland/ICBF Performance Score Card**

	Your Herd	Lakeland Average	Lakeland Top 10%	Your Rank out of 100	Your Star Rating
<b>Milk performance for 2015 (Jan - Dec) based on Lakeland data</b>					
<b>Fat + Protein (Kg/cow)</b> Average Fat and Protein yield per cow for your herd	264	375	482	11%	*
<b>Litres per Cow per Day</b> Avg litres of Milk per cow from Jan - Dec 2015	9.05	13.66	17.6	9%	*
<b>Fat % to end December 2015</b> Weighted average Fat % from Jan - Dec 2015	4.22	3.99	4.24	89%	* * * * *
<b>Protein % to end December 2015</b> Weighted average Protein % from Jan - Dec 2015	3.55	3.4	3.56	89%	* * * * *
<b>Average Milk Price (cpl) Incl. VAT</b> Average milk price received from Jan - Dec 2015, (Includes Bonuses/Penalties, Excludes Levies)	30.6	29.9	31.5	75%	* * * *
<b>SCC (,000 cells/ml)</b> The weighted average Somatic Cell Count for Jan - Dec 2015	258	197	102	20%	*



# Sourcing stock

- USE EBI
  - Look for co-op performance report
  - EBI for the herd
  - ICBF catalogue
  - Milk recordings
  - Buy AI bred stock in calf to AI where possible

# Vaccination Protocol

Example only: Ballyhaise Dairy Vaccination Planner

Red=Cows Green=0-1 heifers Blue=1-2 heifers

	JAN	FEB	MAR	APR	MAY	JUN	JUL	SEPT	OCT	DEC
TUES						2		1		1
WED	1			1 <b>Boxides, leptavoid H</b> <b>Tribovax T, boxides,</b> <b>Leptavoid H</b>		3	1	2		2
THU	2			2		4	2	3	1	3
FRI	3			3	1 <b>Tribovax T</b>	5	3	4	2	4
SAT	4			4	2	6	4	5	3	5
SUN	5		1	5	3	7	5	6	4	6
MON	6 <b>Botaves.</b>	<b>Botaves.</b>	2 <b>Boxides,</b> <b>leptavoid H</b> <b>Tribovax t</b>	6	4	8	6	7	5	7
TUES	7			7	5	9	7	8	6	8
WED	8		4	8	6	10	8	9	7	9
THU	9		5	9	7	11	9	10 <b>Salmonella Boxivac, S</b> <b>Salmonella Boxivac, S</b>	8	10
FRI	10		6	10	8	12	10	11	9	11
SAT	11		7	11	9	13	11	12	10	12
SUN	12		8	12	10	14	12	13	11	13
MON	13		9	13	11	15	13	14	12 <b>Salmonella Boxivac, S</b>	14
TUES	14		10	14	12	16	14	15	13	15
WED	15		11	15	13	17	15	16	14	16
THU	16		12	16	14	18	16	17	15	17
FRI	17		13	17	15	19	17	18	16	18
SAT	18		14	18	16	20	18	19	17	19
SUN	19		15	19	17	21	19	20	18	20
MON	20		16	20	18	22 <b>IBR: Bispoval Bispoval</b> <b>Bispoval</b>	20	21	19	21 <b>IBR Bispoval Bispoval Bispoval</b>
TUES	21		17	21	19	23	21	22	20	22
WED	22		18	22	20	24	22	23	21	23
THU	23		19	23	21	25	23	24	22	24
FRI	24		20	24	22	26	24	25	23	25
SAT	25		21	25	23	27	25	26	24	26
SUN	26		22	26	24	28	26	27	25	27
MON	27		23	27	25	29	27	28	26	28
TUES	28		24	28	26	30	28	29	27	29
WED	29		25	29	27		29	30	28	30
THU	30		26	30	28		30		29	31
FRI	31		27		29		31		30	
SAT			28		30				31	
SUN			29		31					
MON			30							
TUE			31							