Suckler Beef Farm Walk

"Use of Synchronisation and AI on suckler herds"

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Autumn 2016

Suckler Beef farm Walk

Topics

- Factors affecting herd fertility
- Synchronisation and AI
- Bull selection
- Calf performance
- Bovine Information System

Encourage

- questions & comments

Suckler herd fertility

Key to driving profitability

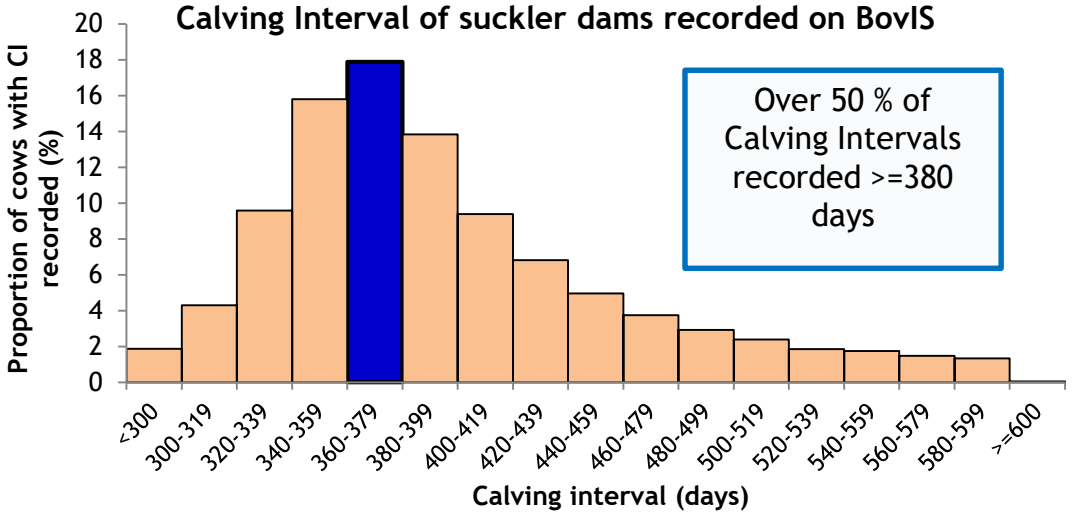
Calving interval should be 365 days

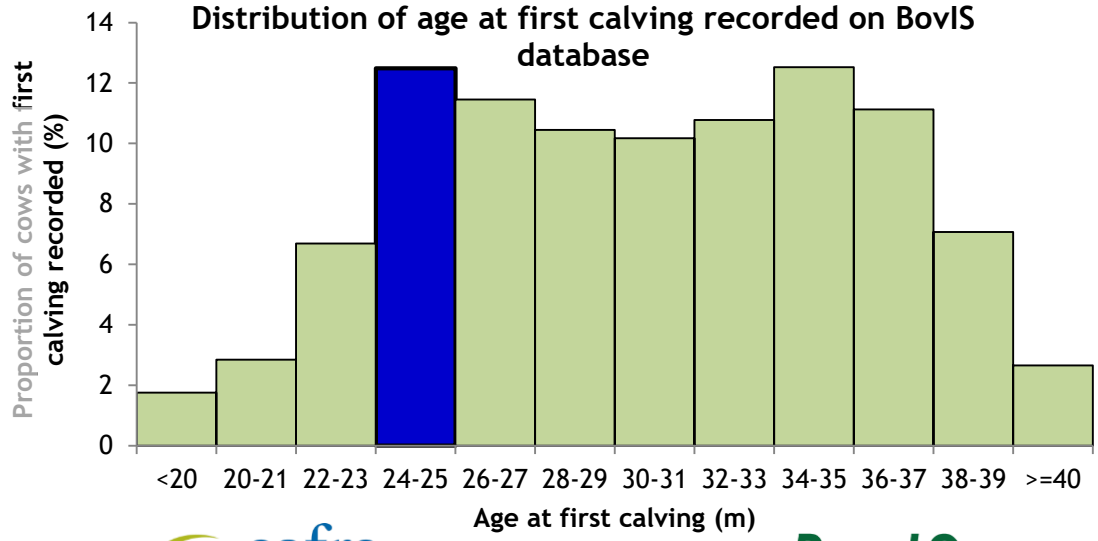
- Average calving interval of NI suckler herds is currently 420 days

Massive room for improvement at a farm level

Suckler replacements should produce their first calf at 24 months

- Average first calving age NI suckler replacements is 30.6 months





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BovIS Bovine Information System

What are the key factors which influence herd fertility?

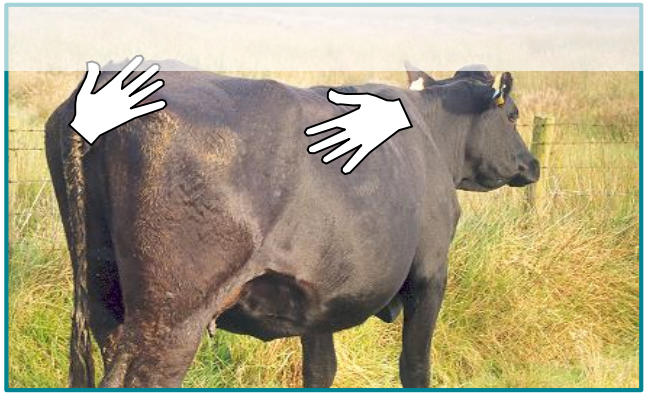
Factors influencing fertility

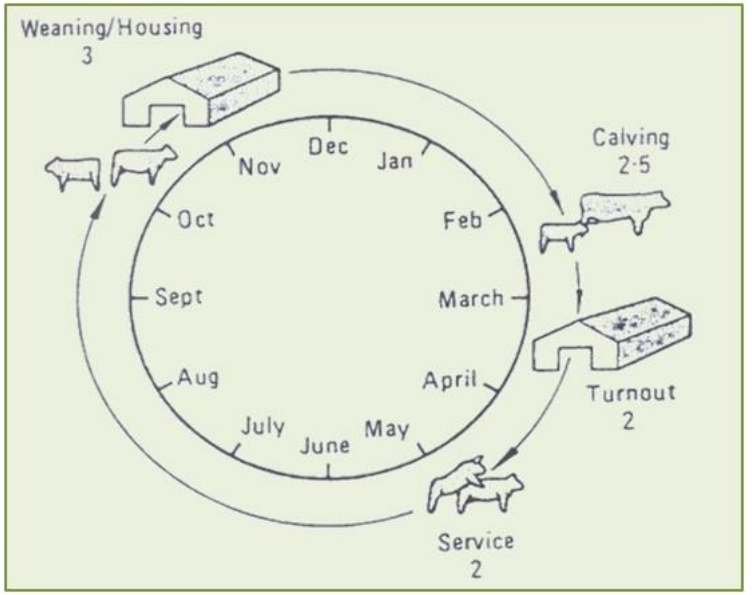
- Farm management
- Animal health
  - Infectious diseases
  - Trace elements
- Animal nutrition
- Body condition score
- Previous calving difficulty

Planning

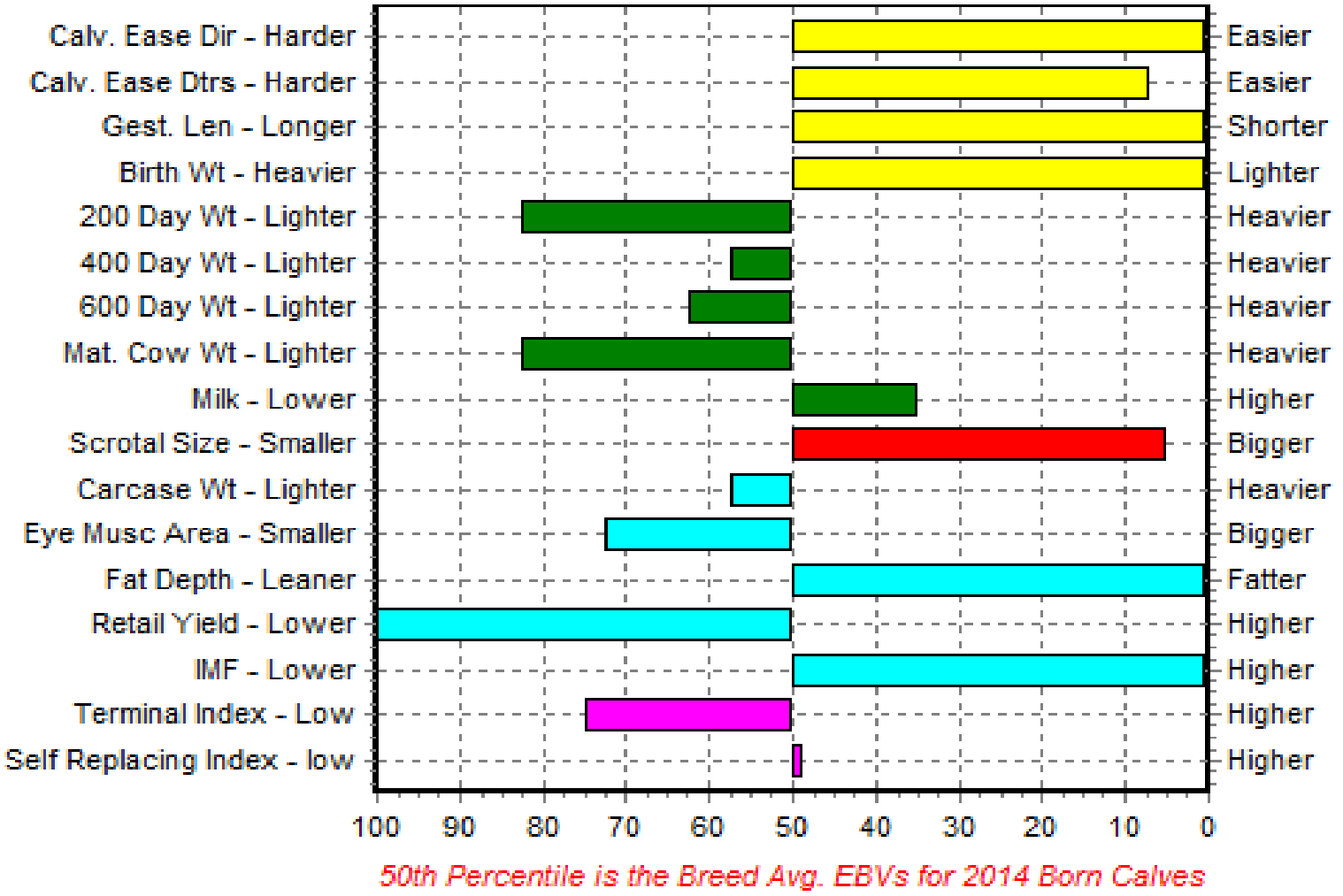
- Timing- health checks, condition scoring, service period
- Scanning/ culling
- Adequate supply of suitable replacements
- Bull selection

Body condition score





Breedplan bull used at Greenmount to mate with replacement heifers



50th Percentile is the Breed Avg. EBVs for 2014 Born Calves

Very easy calving

Slower growing

Could be better

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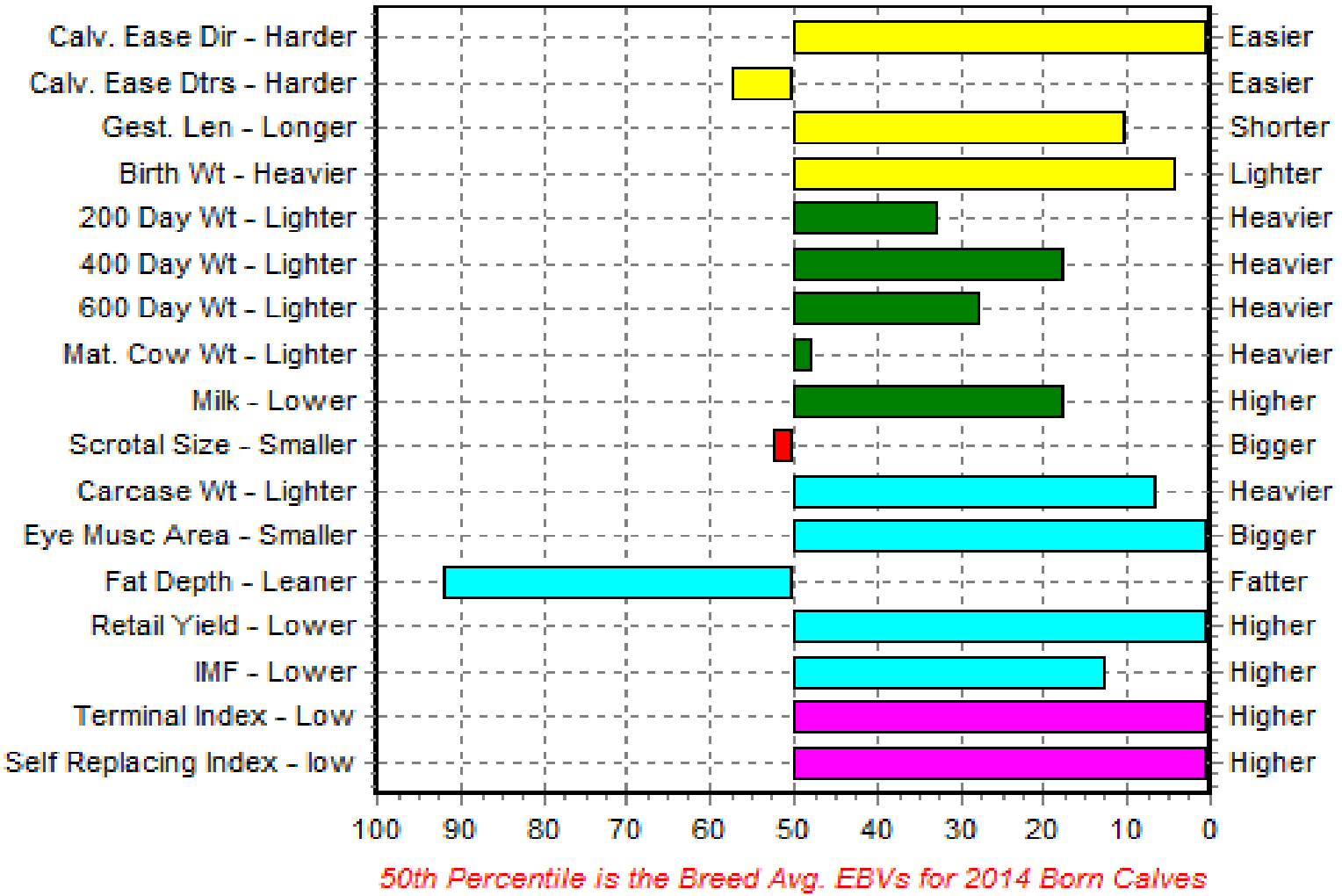
Breedplan bull used at Greenmount to mate with replacement heifers



Very easy calving

Also fast growing

Could also keep replacements

Better carcase

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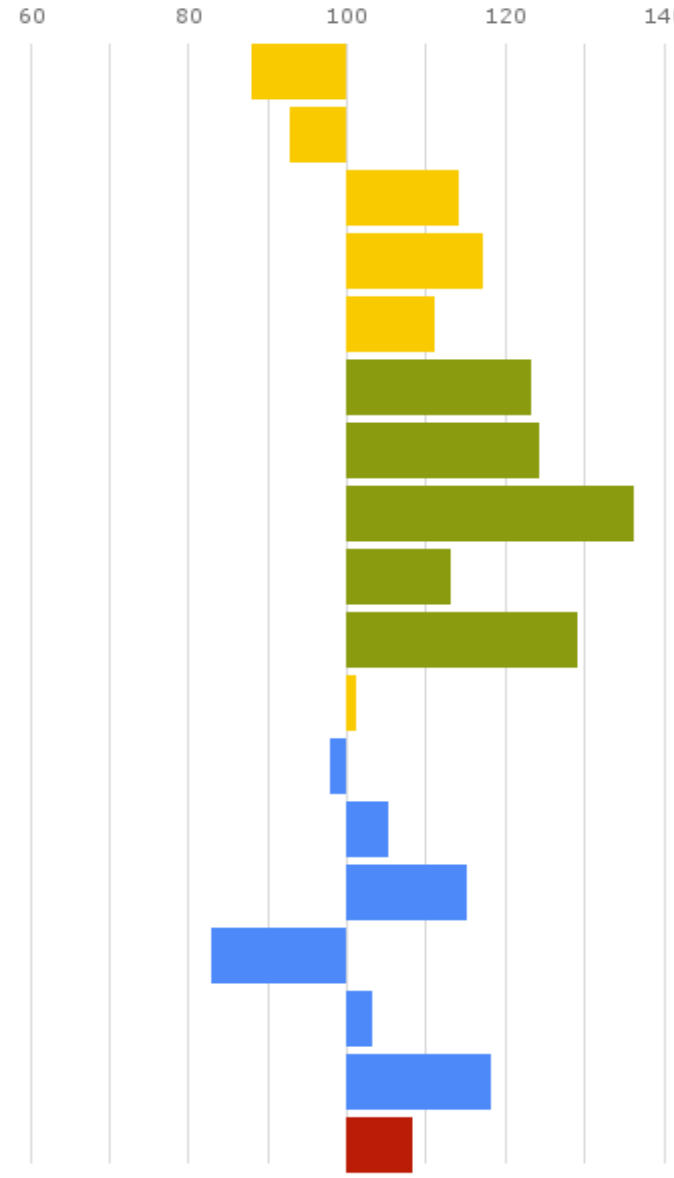
What you see in a catalogue

	Calving Ease DIR (%)	Calving Ease DTRS (%)	Gestation Length (days)	Birth Wt. (kg)	200 Day Wt (kg)	400 Day Wt (kg)	600 Day Wt (kg)	Mat Cow Wt (kg)	Milk (kg)	Scrotal Size (cm)	Carcase Wt (kg)	Eye Muscle Area (sq cm)	Fat Depth (mm)	Retail Beef Yield (%)	IMF (%)
EBV	**+7.1**	-0.1	-0.3	**+0.4**	+40	+81	+91	+78	+15	+0.8	+71	+10.0	-2.5	+2.9	+0.3
Acc	75%	55%	90%	96%	88%	83%	78%	65%	44%	72%	67%	51%	59%	50%	46%
Breed Avg. EBVs for 2014 Born Calves Click for Percentiles															
EBV	-1.8	+0.2	+0.9	+3.1	+36	+63	+79	+76	+10	+0.9	+49	+3.4	-1.1	+0.9	+0.0

Traits Observed: BWT,200WT(x2),400WT,SS,FAT,EMA,IMF
Statistics: Number of Herds: **87**, Progeny Analysed: **293**, Scan Progeny: **11**,

SELECTION INDEX VALUES		
Market Target	Index Value	Breed Average
Terminal Index	+50	+28
Self Replacing Index	+65	+37

Basco bull used at Greenmount to produce replacement heifers



Use on mature cows

Good

Good

Useful in by-product steers

Fatter - useful

Could be better

Important

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Synchronisation & AI

Why consider synchronisation?

- Utilise benefits of AI
- Biggest drawbacks with AI:
  1. Need for heat detection
  2. Getting individual cows in for AI can be stressful for farmer and cow
  3. Time consuming

Synchronisation minimises these problems

- what protocol do we use?
- what conception rates do we expect?

Range of products available

Products used in trial

CIDR ACEGON LUTALYSE PRELLIM zoetis

Synchronisation and AI

Current on-farm research programme

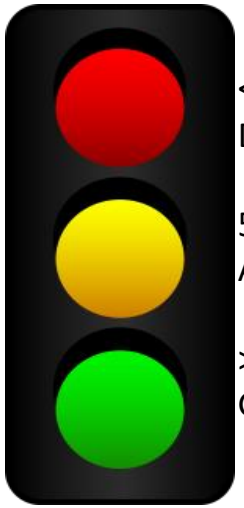
- Involves 12 herds, including AFBI & CAFRE
- 2 programmes for heifers & cows differing in:
  - number of handlings
  - veterinary medicine input

Day	Mon	Tue-Fri	Sat	Sun	Mon	Tue	Wed	Thur	Results	Synchro. Cost
Heifer 1	Prog d. in & GnRH		Prog d. out & PG			FTAI & GnRH			**55%** (35 – 73)	**£25**
Heifer 2	Prog d. In				PG	Prog d. out		FTAI	**68%** (44 – 84)	**£15**
Cow 1	Prog d. in & GnRH				Prog d. out & PG			FTAI & GnRH	**63%** (46 – 79)	**£25**
Cow 2	Prog d. in & GnRH				PG	Prog d. out	GnRH	FTAI	**62%** (55 – 72)	**£25**

Prog d.: Progesterone device
PG: Prostaglandin
GnRH: Gonadotrophin Releasing Hormone
FTAI: Fixed Time Artificial Insemination

Conception to 1st service (Year 1 and 2)

Farm	Heifer 1	Heifer 2	Cow 1	Cow 2
A	54%	72%	65%	55%
B		70%	65%	
C	50%	67%	48%	
D	45%	72%	67%	
E	80%		63%	
F		88%		72%
G	60%		63%	
H	66%	44%	69%	
I	46%		55%	
J	73%		55%	
K	45%			
L		64%		58%
OTHER		67%	65%	
TOTAL	55% (76/139)	68% (173/253)	63% (391/619)	62% (68/109)



<50%
Disappointing

50-59%
Acceptable

>60%
Good

Ciaran Kearney Synchronisation and AI (Year 1 and 2)

2015 Summer Results

Day	Mon	Tue	Wed	Th	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Results
Heifer 1	Prog d. in & GnRH					Prog d. out & PG			FTAI & GnRH			**66% (6/9)**
Cow 2	Prog d. in & GnRH							PG	Prog d. out	GnRH	FTAI	**60% (6/10)**

2015 Winter Results

Day	Mon	Tue	Wed	Th	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Results
Heifer 1	Prog d. in & GnRH					Prog d. out & PG			FTAI & GnRH			**83% (5/6)**
Cow 2	Prog d. in & GnRH							PG	Prog d. out	GnRH	FTAI	**57% (8/14)**

2016 Summer Results

Day	Mon	Tue	Wed	Th	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Results
Cow 1	Prog d. in & GnRH							Prog d. out & PG			FTAI & GnRH	**50% (7/14)**

Prog d.: Progesterone device
PG: Prostaglandin
GnRH: Gonadotrophin Releasing Hormone
FTAI: Fixed Time Artificial Insemination

Artie Birt Synchronisation and AI (Year 1 and 2)

2015 Results

Day	Mon	Tue	Wed	Th	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Results
Heifer 1	Prog d. in & GnRH					Prog d. out & PG			FTAI & GnRH			**35% (9/26)**
Heifer 2	Prog d. In							PG	Prog d. out		FTAI	**81% (21/26)**
Cow 2	Prog d. in & GnRH							PG	Prog d. out	GnRH	FTAI	**55% (22/40)**

2016 Results

Day	Mon	Tue	Wed	Th	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Results
Heifer 1	Prog d. in & GnRH					Prog d. out & PG			FTAI & GnRH			**73% (19/26)**
Heifer 2	Prog d. In							PG	Prog d. out		FTAI	**63% (15/24)**
Cow 1	Prog d. in & GnRH							Prog d. out & PG			FTAI & GnRH	**65% (86/132)**

Prog d.: Progesterone device
PG: Prostaglandin
GnRH: Gonadotrophin Releasing Hormone
FTAI: Fixed Time Artificial Insemination

RCF Synchronisation Summary

Take home message

Preliminary findings from study indicate:

- Results can be variable (35-88%)
- Minimal handling heifer protocol may result in slightly poorer conception rates
- Cow protocols resulted in similar conception rates
  - Conception to 1st service affected by:-
    - Calving difficulty
    - Body condition score
    - Days between calving and AI (>42 days calved)
    - Temperament

Important considerations:

- Have a plan for repeats – bull or heat detect and AI?
- Overall calving spread reduced
- Sorted semen – expect poorer results
- Bull not 100% either!!!!

Ciaran Kearney
Farm walk 30.11.16

Choice of sire breed:

Dependent on needs of farm:

- upland v lowlands;
- maternal v terminal traits

Fig 1 Number of cows mated to either AI or stock bull- spring/summer

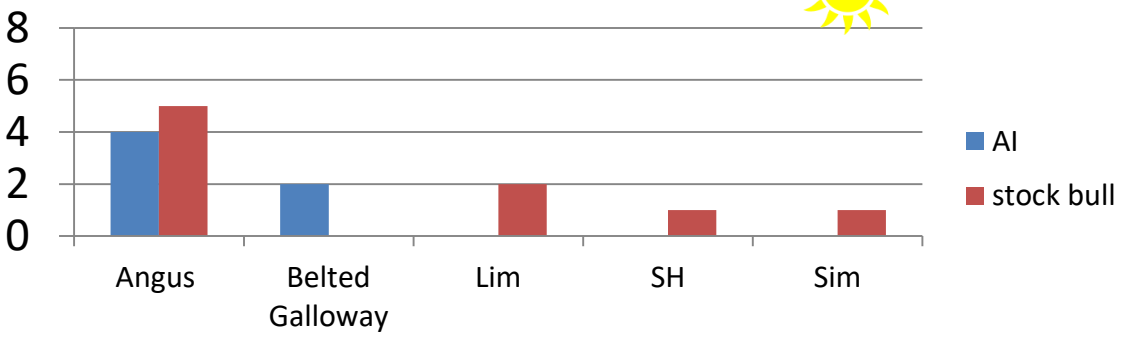
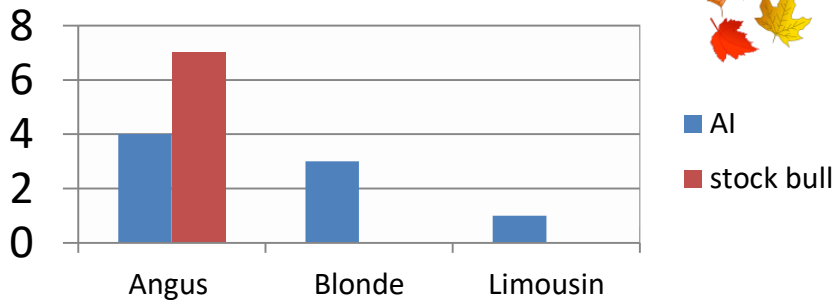


Fig 2 Number of cows mated to either AI or stock bull- autumn



Cows were scored at calving:

- 2 dead calves from Galloway heifers, sired with Blonde. 2 more cows had minimal assistance.
- all other cows calved unassisted and all calves got up to suck readily
- cows had excellent temperament and mothering ability

THE FOLLOWING TABLES ARE PROVIDED FOR YOUR INFORMATION. HOWEVER IT IS NOT VALID TO COMPARE BETWEEN GROUPS BECAUSE OF LOW NUMBERS.

Current performance of calves to weaning of spring/summer born calves

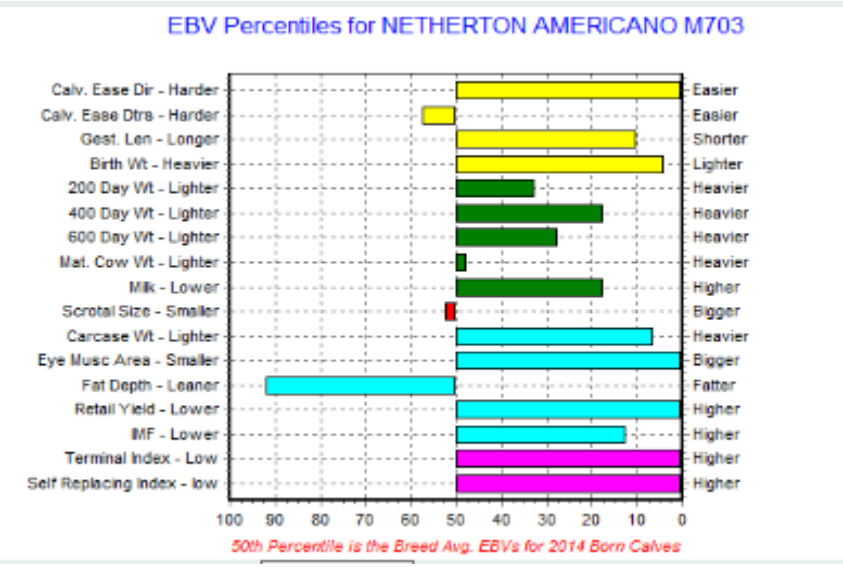
	Angus Stock Bull		Angus AI		Belted Galloway AI	Limousin stock bull	Shorthorn stock bull	Simmental stock bull
Season of birth	spring	summer	spring		spring	spring	spring	spring
Number of calves	3 (1M, 2F)	2 (M)	4 (F)		2 (F)	2 (1M, 1F)	1(M)	1(M)
Birth weight (kg)	38	36	38		37	38	49	37
Age (days)	191	102	208		223	258	217	305
Live weight (kg)	234	185	240		233.5	317	304	305
LWG birth to present (kg/d)	1.02	1.45	0.98		0.84	1.09	1.18	0.88
Current cow live weight (kg)	640	575	610		655	595	620	630
Current cow Body Condition Score	2.6	2.6	2.4		2.6	2.4	2.75	2.5
Calf/ cow weaning efficiency	0.36	-	0.41		0.34	0.53	0.49	0.48

Current performance of autumn born calves

	Angus stock bull	Angus AI	Blonde AI	Limousin AI
Number of calves	7 (6 M, 1F)	4 (3 M, 1 F)	3 (1M, 2F)	1 (F)
Birth weight (kg)	36	36	37	38
Live weight (kg)	115	153	125	140
Current cow live weight (kg)	626	623	500	625
Current cow Body Condition Score	2.6	2.6	2.6	2.5

Key
M male
F female

AMERICANO



November 2016 Aberdeen-Angus BREEDPLAN															
	Calving Ease DIR (%)	Calving Ease DTRS (%)	Gestation Length (days)	Birth Wt. (kg)	200 Day Wt (kg)	400 Day Wt (kg)	600 Day Wt (kg)	Mat Cow Wt (kg)	Milk (kg)	Scrotal Size (cm)	Carcase Wt (kg)	Eye Muscle Area (sq cm)	Fat Depth (mm)	Retail Beef Yield (%)	IMF (%)
EBV	**+7.1**	-0.1	-0.3	**+0.4**	+40	+81	+91	+78	+15	+0.8	+71	+10.0	-2.5	+2.9	+0.3
Acc	75%	55%	90%	96%	88%	83%	78%	65%	44%	72%	67%	51%	59%	50%	46%
Breed Avg. EBVs for 2014 Born Calves Click for Percentiles															
EBV	-1.8	+0.2	+0.9	+3.1	+36	+63	+79	+76	+10	+0.9	+49	+3.4	-1.1	+0.9	+0.0

SELECTION INDEX VALUES		
Market Target	**Index Value**	**Breed Average**
Terminal Index	+50	+28
Self Replacing Index	+65	+37

- EBVs can only be compared WITHIN a breed
- half of EBVs passed on to progeny from the sire
- we would expect progeny of Americano to be, on average, 2 kg heavier at 200d than the Angus breed average

Choice of sire breed:

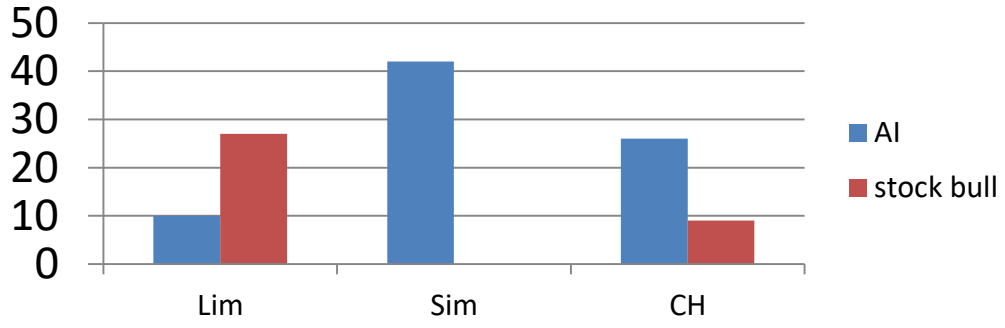
Dependent on needs of farm:

- upland v lowlands;
- maternal v terminal traits

On this lowland farm:

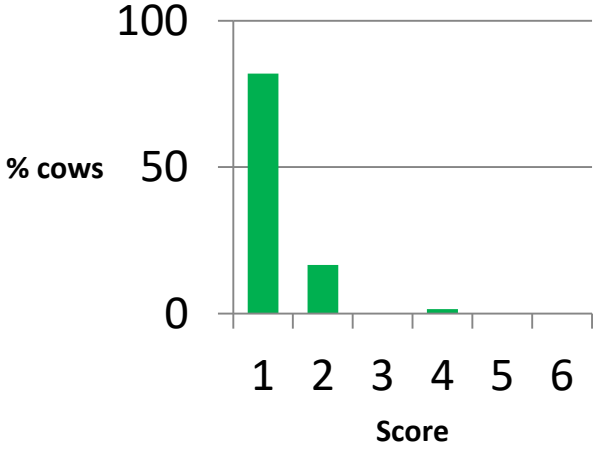
- spring calving herd
- 8 week calving period,
  from 9th March to 6th May 2016

Figure 1. Number of cows mated to either AI or stock bull



Cows were scored at calving:

Figure 2. Calving difficulty

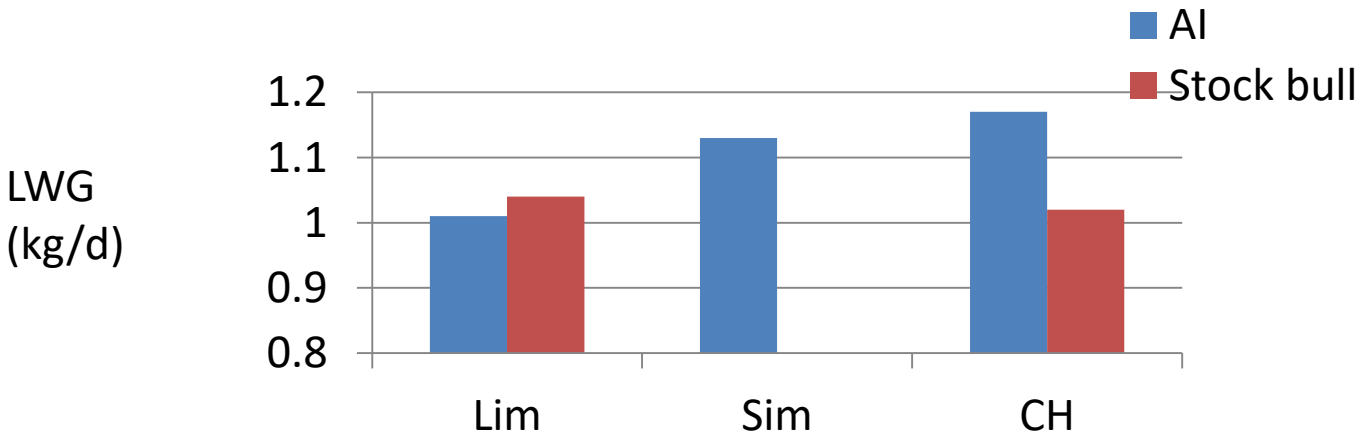


- **all cows were classified as either very quiet (97%) or quiet (3%) at calving**
- **99% of all cows had excellent mothering ability**
- **92% of all calves got up and sucked readily**

Current performance of calves

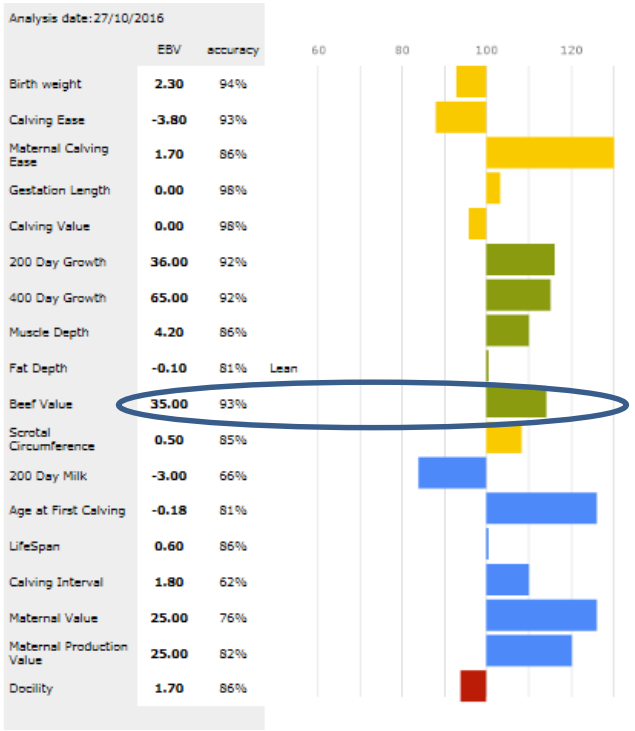
	AI				Stock bulls		
	Brigadeer	Clio	Delboy	Nostrdamus	Edd	Empire	Huran
Breed	**Lim**	**Sim**	**Sim**	**CH**	**Lim**	**Lim**	**CH**
Number of calves	10	39	3	26	14	13	9
Birth weight (kg)	44	44	44	44	43	45	44
Age (days)	237	243	230	238	232	209	219
Live weight (kg)	294	315	328	324	269	275	266
LWG birth to present (kg/d)	1.01	1.12	1.23	1.17	1.00	1.11	1.02
Current cow live weight (kg)	608	596	610	625	592	630	633
Current cow Body Condition Score	2.4	2.5	2.5	2.5	2.4	2.5	2.5
Calf/ cow weaning efficiency	0.51	0.53	0.54	0.52	0.45	0.43	0.42

Figure 3. LWG to weaning

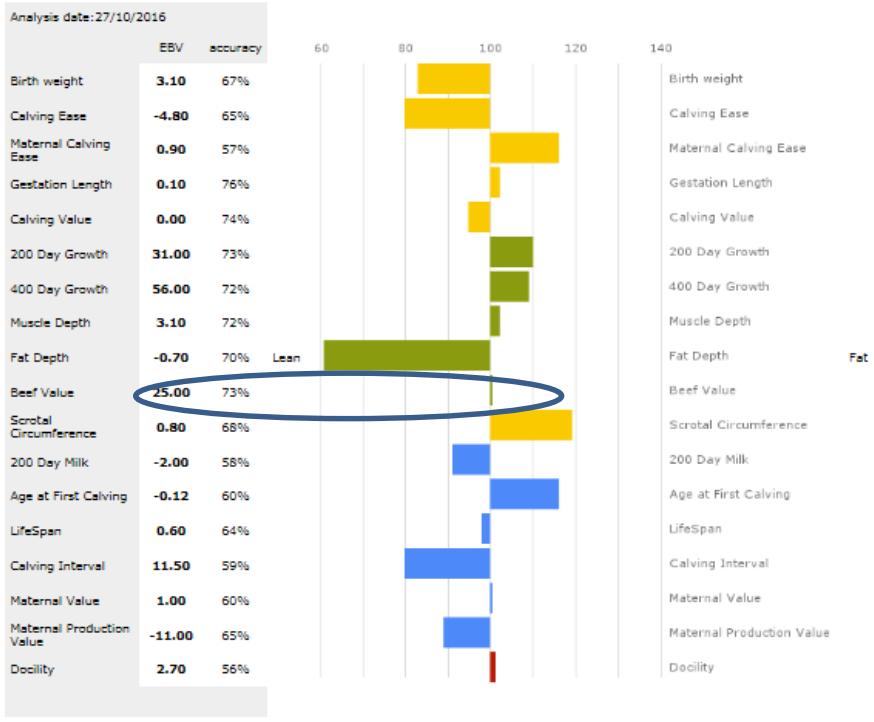


Artie Birt
Farm walk 01.12.16

- EBVs can only be compared WITHIN a breed



Brigadeer- AI



Edd- stock bull

- half of EBVs passed on to progeny
- Expect Edd's finished progeny to be worth, on average, 25/2= £12.50 more than a bull with EBV of 0 for Beef Value
- We expect Brigadeer's finished progeny to be worth, on average, 35/2= £17.50 more than a bull with EBV of 0 for Beef Value

REMAINING PART OF PROJECT

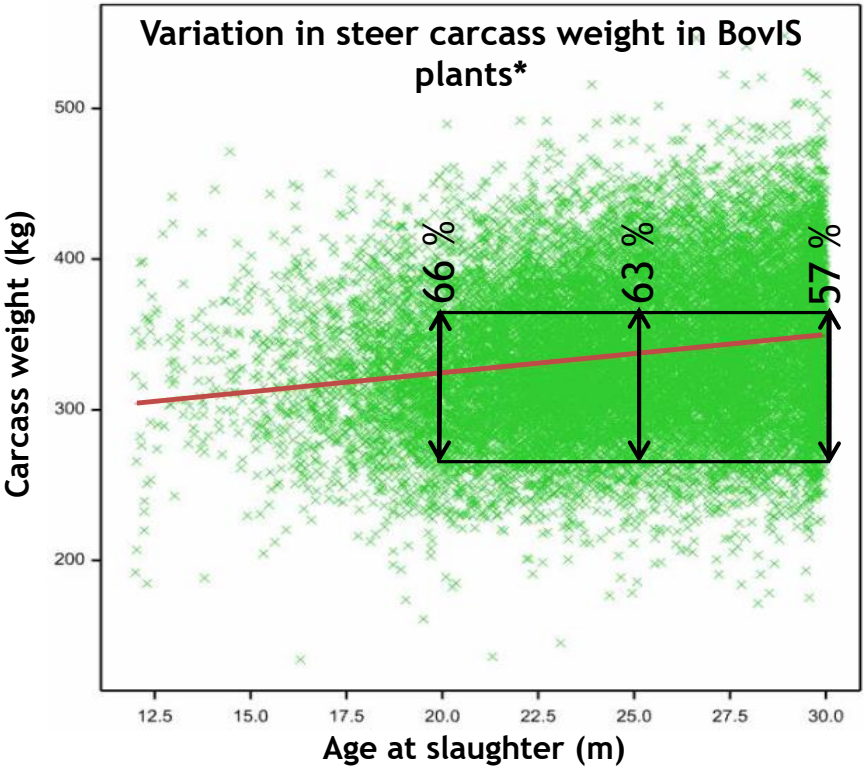
- pool data across all co-researchers of study- different environments and cow & sire genetics
- How well does EBV correlate with
  - ➢ calving difficulty?
  - ➢ live weight gains?
  - ➢ carcass gains?
  - ➢ carcass composition?

How do superior genetics translate to  ?

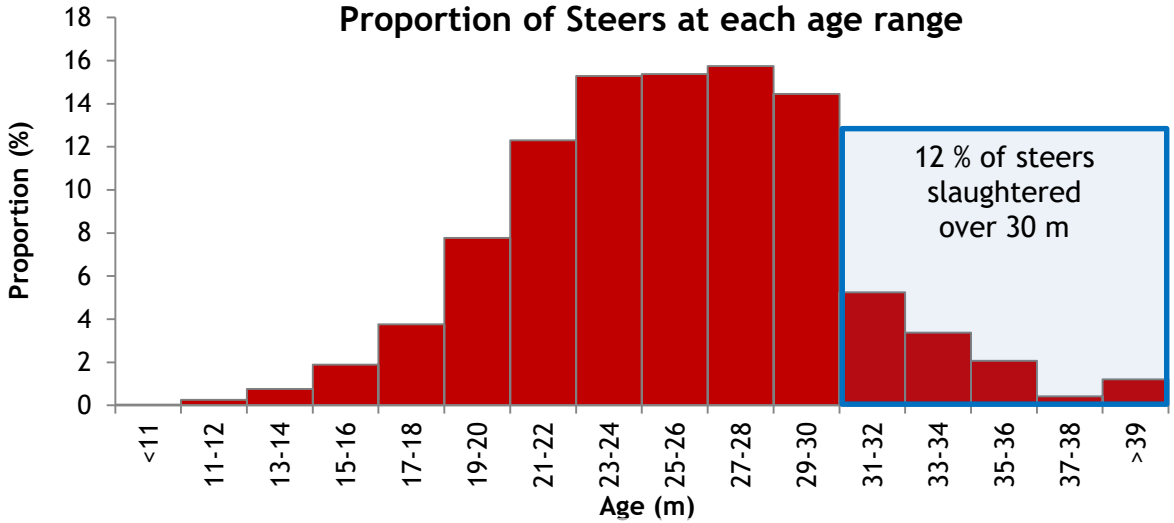
Daily Carcass Gain

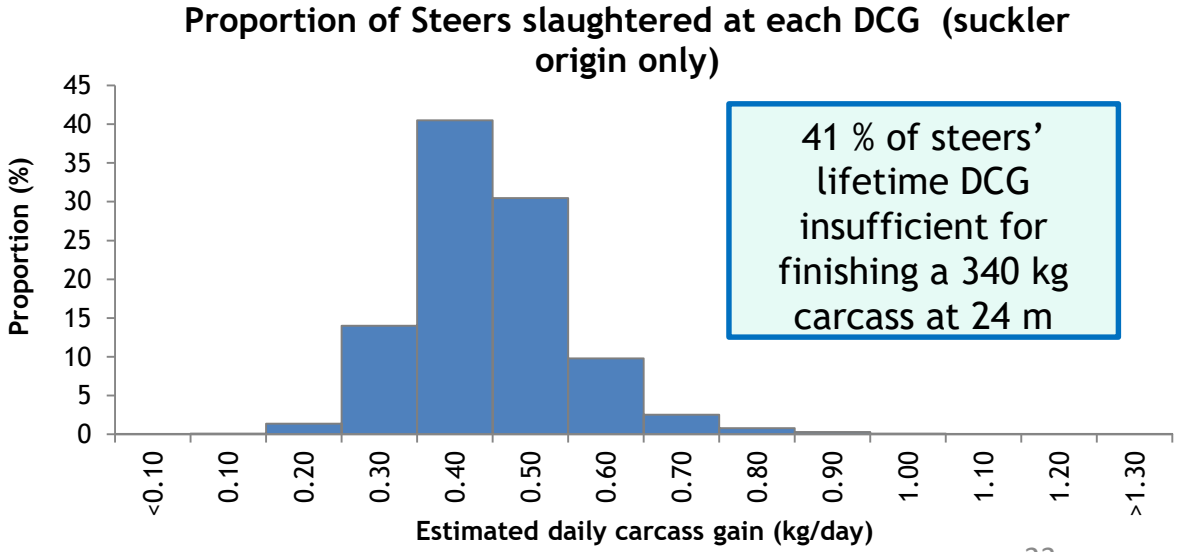
Beef production in Northern Ireland

- Large variation in carcass weight at all ages
- Possibility to reduce age at slaughter whilst maintaining slaughter weight



*Figures denote proportion of steers at selected age achieving in spec weight



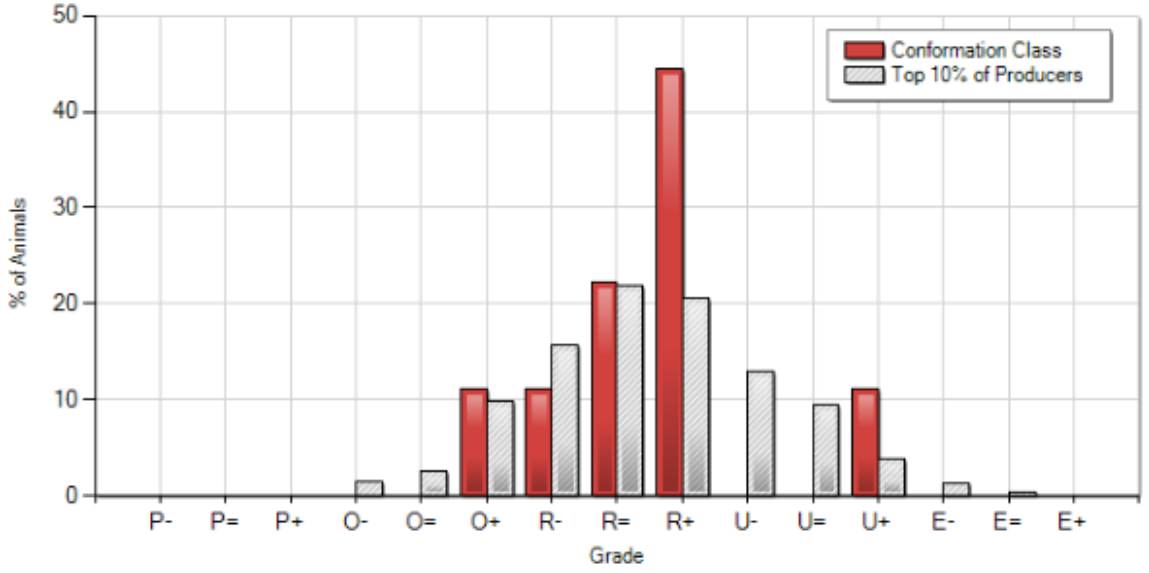


BovIS online management tools

Carcass benchmarking tool

Kill Date	Abattoir	Cattle	
08/07/2013	ABP Lurgan	6	View Records
13/05/2013	Linden foods	8	View Records
06/03/2013	W. D. Meats	12	View Records
13/02/2013	Foyle Campsie	11	View Records
12/02/2013	Dunbia, Dungannon	7	View Records
16/01/2013	ABP Newry	8	View Records
16/12/2012	Foyle Omagh	12	View Records

- View, sort and analyse recent factory kill information
- Judge the performance of beef cattle against industry requirements
- Benchmark against
  - Producers of similar cattle
  - Slaughter information from a different time period
  - Slaughter information from different breeds within herd



Summary of Your Performance

	Animal Count	Weight (kg)	Fatness	Conformation	Age (mths)	Carcass Gain (kg/day)	In Spec (%)
My Steers	9	321.1	4=	R=	21.8	0.48	61.5
Top 10%	518	355.6	3+	R+	17.7	0.68	61.6
All Producers	7,431	345.4	3+	R=	23.3	0.50	55.7
My Native Sire x Continental	9	321.1	4=	R=	21.8	0.48	61.5
Nov 2013 - Nov 2014	15	354.7	4=	R+	21.1	0.55	60.0

- Unless specified, all values in performance summary table are averages.

BovIS online management tools

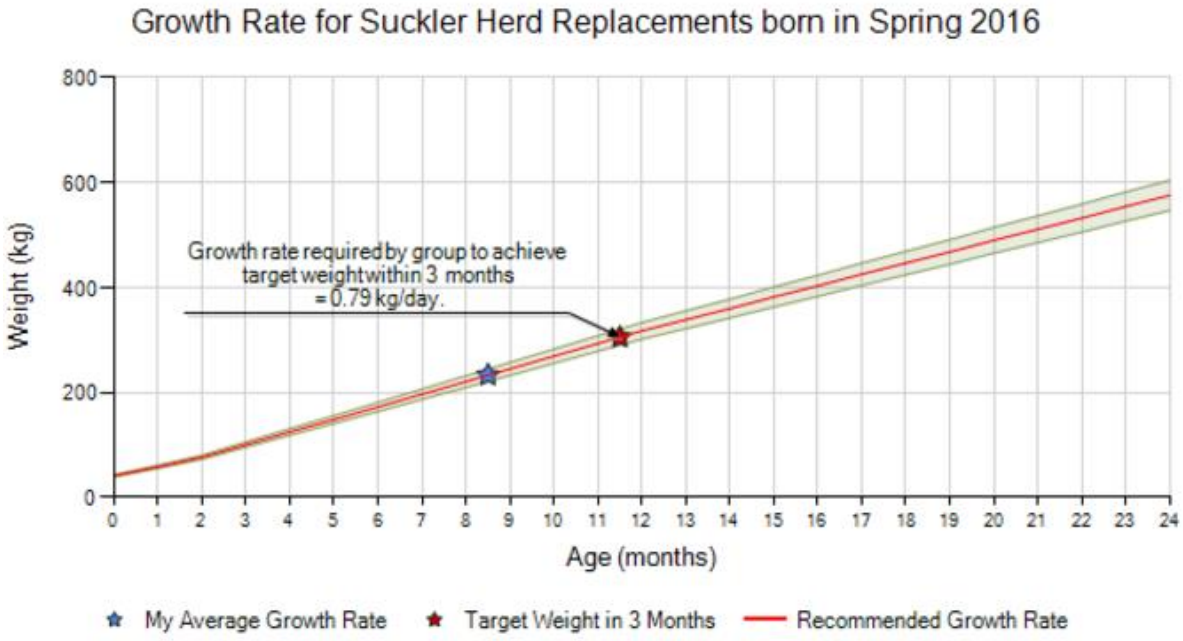
Online growth monitoring tool

- Decision support tool: aids producers to adhere to a target driven growth curve
  - Dairy / Suckler herd replacements
  - Dairy origin beef (bull/ steer or heifer)

- Generates a current ideal weight for animals in the herd and a predicted weight for 3 months time

- Provides the required DLWG to achieve desired weight

- Gives producers an opportunity to examine both individual performance and group performance of cattle



Suckler Herd Replacements born in Spring 2016

Animal Tag No	Sex	Breed	Date of Birth	Age (months)	Weight (kg)	Target Weight (kg)	Target Weight in 3 Months (kg)	Target Live Weight Gain (kg/day)
UK 9 000000 0000 1	F	Breed X	12/03/2016	8.6	250	245	317	0.73
UK 9 000000 1000 4	F	Breed X	13/03/2016	8.6	245	245	317	0.79
UK 9 000000 1000 6	F	Breed X	14/03/2016	8.5	243	245	317	0.81
UK 9 000000 1000 7	F	Breed X	16/03/2016	8.5	201	221	293	1.01
UK 9 000000 1000 2	F	Breed X	17/03/2016	8.4	232	221	293	0.67
UK 9 000000 1000 3	F	Breed X	18/03/2016	8.4	226	221	293	0.73
			Average:	**8.5**	**233**	**233**	**305**	**0.79**

NOTES