

Suckler Beef Farm Walk

“Use of Synchronisation and AI on suckler herds”

Michael Griffith

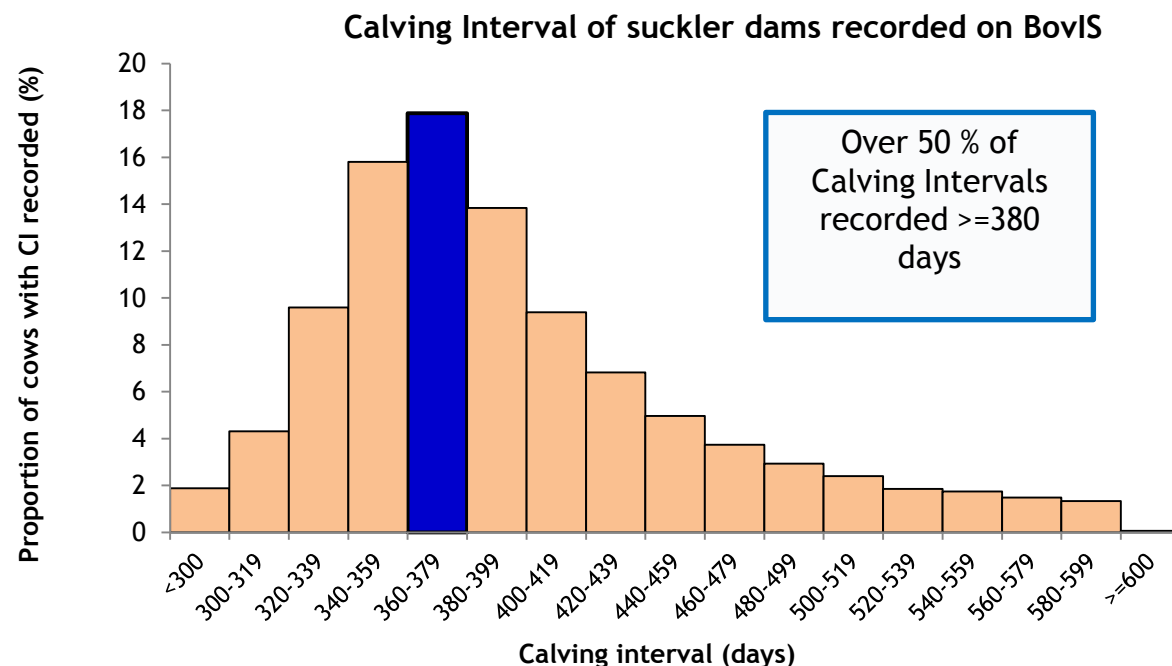
71 Old Belfast Road, Saintfield, Co Down BT24 7EY



Thursday 24th March 2016

Main topic for discussion is suckler fertility

- Animal health
- Managing body condition score
- Bull selection
- Synchronisation and AI
 - what protocols should we use?
 - what does it cost?
 - what results should we expect?
- AFBI evaluation of sexed semen
- Benchmarking



- ◆ Poor herd health is a major barrier to performance
- ◆ Herd health planning focuses on prevention – on farm risk assessment
- ◆ Must be specific to your own farm

Review information available:

- fertility records
- calf mortality data
- vaccination programmes
- medicines used
- weight recording
- body condition score
- lab results

Health plans must be:

- realistic
- clear and easy to understand
- acted on – high risk problems tackled first
- used and reviewed regularly

Be proactive – talk to your vet ... complete an animal health plan

- ◆ Key role in maintaining high health status on many herds
- ◆ Annual testing and/or vaccination for major diseases that affect performance

BVD:

- Highly contagious disease – impacts on fertility and stock performance
- Control – tissue tag (eradication programme), cows and replacement heifers vaccinated
Persistently Infected (PI) animals culled

Leptospirosis

- Bacterial disease that results in infertility and abortion
- Cows and replacement heifers vaccinated

IBR

- Respiratory and abortion causing disease that has a major impact on performance
- Cows, calves and replacement heifers vaccinated

Johne's

- Wasting disease with no treatment available – over two years olds tested each year
- Cull infected stock to keep herd Johne's free

Good biosecurity is vital

Energy metabolism of suckler cows

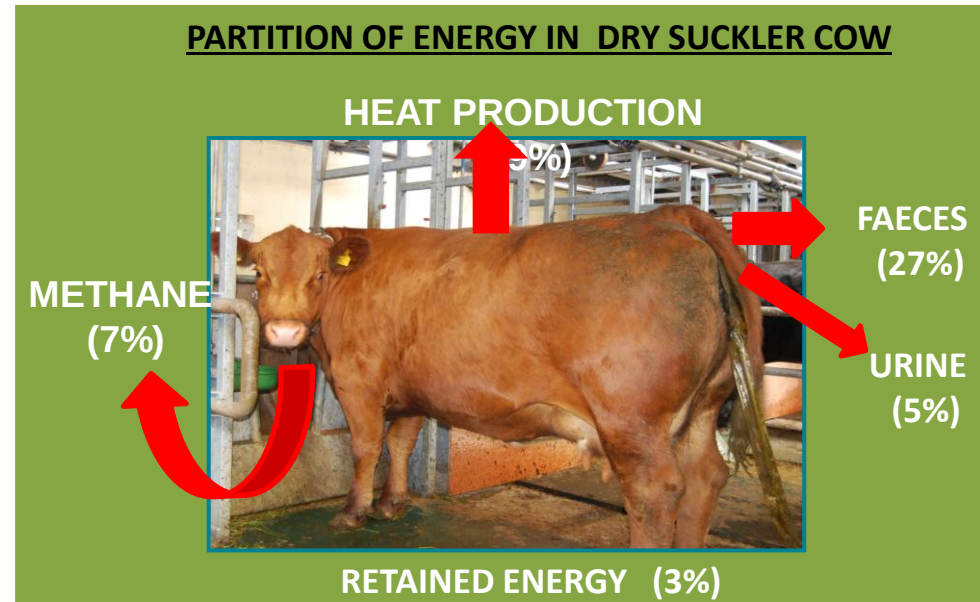
◆ Consumed feed (energy) is partitioned as follows:

- heat production
- faeces
- urine
- methane
- milk production
- retained energy

◆ Energy supplied in the form of feed is required for:

- maintenance
- milk production
- pregnancy
- **body condition score**

Decreasing
priority



◆ Factors influencing body condition score:

- animal age
- genetics
- milking ability
- health
- nutrition

Importance for fertility

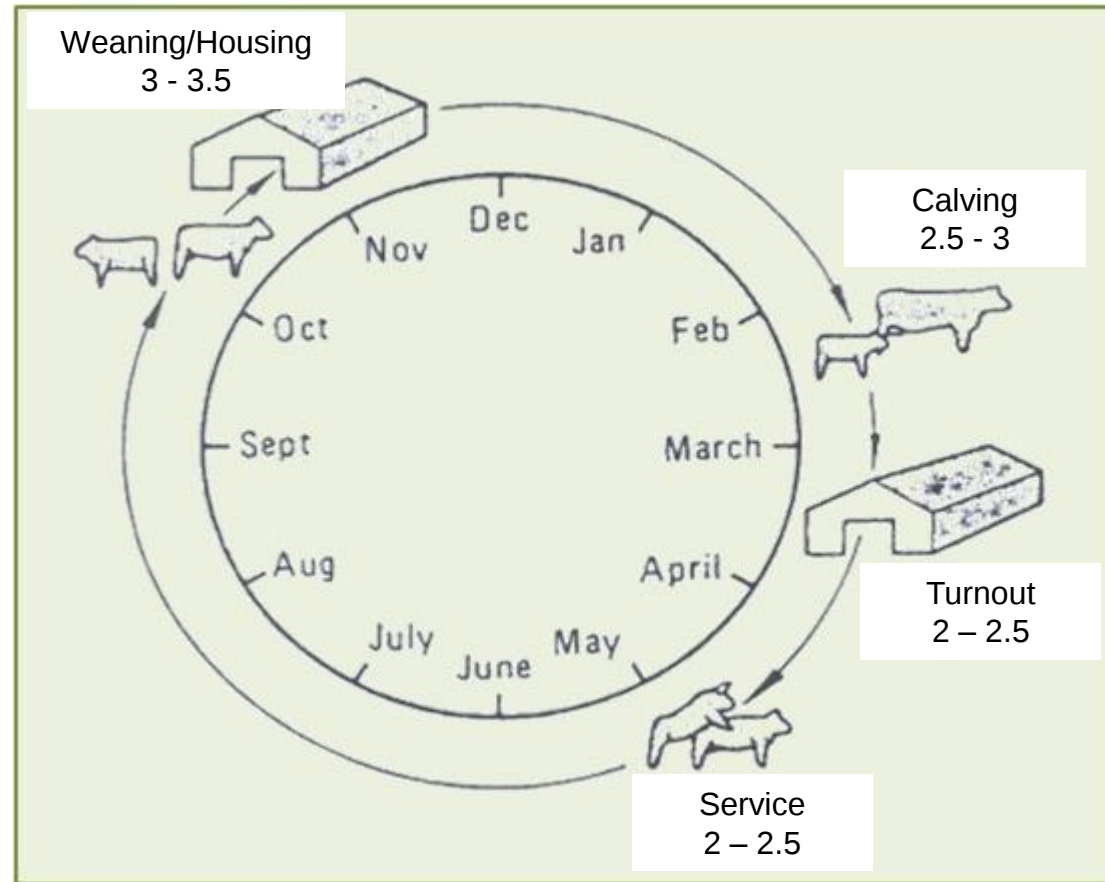
◆ Body condition score affects fertility

BCS at calving	Days to first heat
1.75	57
2.5	43
3.50	48

BCS at calving	Calving interval
1 – 1.5	418
2	382
2.5-3.0	364

Drennan & Berry (2006)

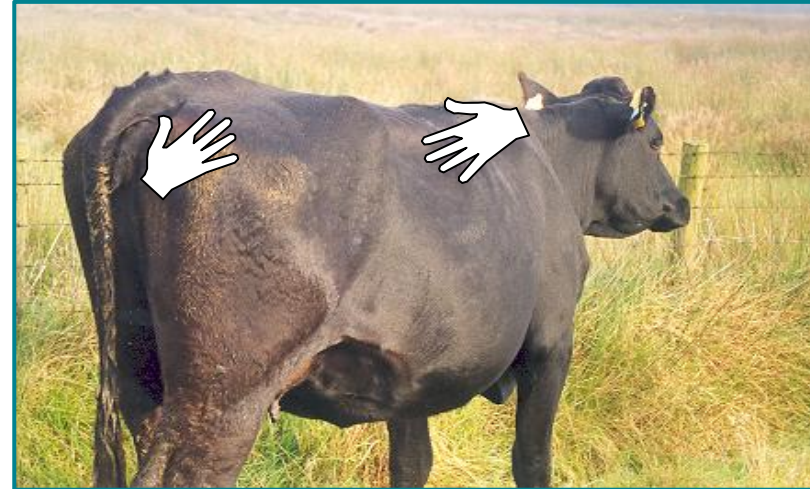
Target for spring calving herd



How to assess body condition score

- ◆ Underutilised on many farms
- ◆ Is used to achieve a balance between:
 - economic feeding
 - good production
 - good welfare
- ◆ Handle cows to properly assess body condition score at:
 - weaning
 - calving
 - service
- ◆ Body condition score can impact on:
 - feed requirement
- ◆ 1 unit body condition score
 - = 70 kg of live weight (600 kg)
 - = 1800 MJ
 - = 1 tonne silage or 250 kg barley

Condition score 2



Condition score 3



Practical methods to utilise body condition score

◆ Group cows according to body condition score and feed accordingly

◆ Dependent on:

- feed quality
- silage analysis
- feed space allowance
- feed method
- parasite control

◆ Other options:

- wean early
- wean late
- autumn grazing
- forward creep grazing

Grouping and feeding regime for CAFRE suckler herd

	Thin	Optimum	Fat
Weaning BCS	2.0	2.9	3.9
Feeding regime	Ad lib High quality silage	25 kg Average quality silage	Ad lib wheat straw (4 days) AND 25 kg average quality silage (3 days)
Daily feed cost (p/d)	57p	32p	29p
End January BCS	3.1	3.2	3.3

Purchasing a stock bull:

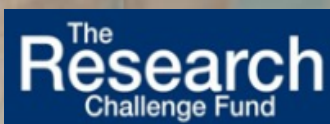
- Allow sufficient time
- Visual assessment
- Use available figures
- Fertility test?
- Health status

Estimated Breeding Values (EBVs)

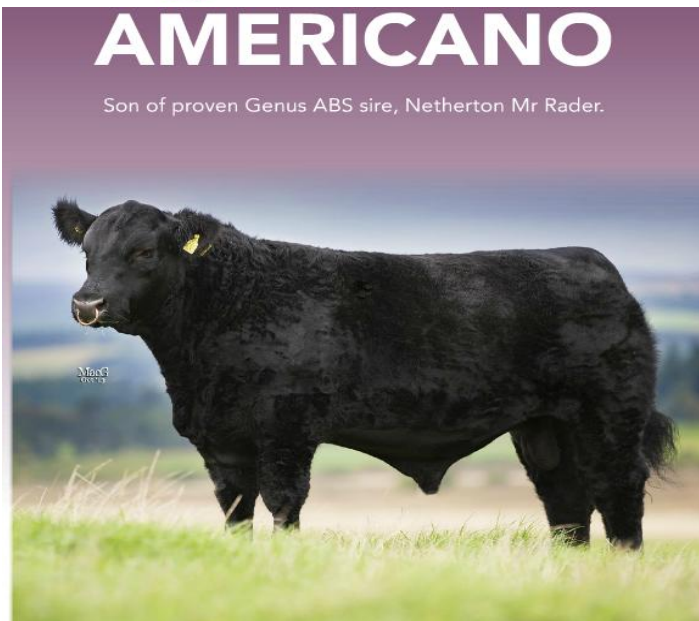
- allow you to pick a bull with superior genetics
- assess calving difficulty
- can match bull to what you want for your business-
 - Terminal sire
 - High 200d growth for selling weanlings
 - Maternal sire

Why AI in suckler herd?

- Greater potential to match up sires with individual cows
- Change breed and genetics quickly
- Low capital investment
- Good semen quality
- Synchronisation programme/sexed semen



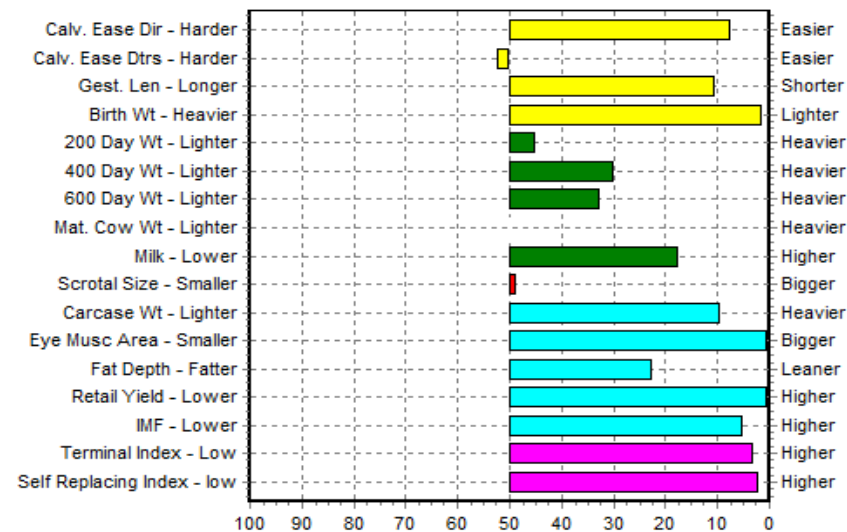
EBV Percentiles for NETHERTON AMERICANO M703



ABERDEEN ANGUS

PROVEN SIRE

NETHERTON AMERICANO
EAR TAG: UK542697 200703
GENUS CODE: AA1298



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

February 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	+2.8	+0.3	-0.2	-0.4	+36	+71	+86	-	+14	+0.7	+67	+9.9	-1.8	+2.8	+0.5
Acc	69%	50%	84%	93%	84%	77%	75%	-	43%	68%	61%	46%	53%	45%	40%

Breed Avg. EBVs for 2014 Born Calves [Click for Percentiles](#)

EBV	-1.7	+0.3	+0.9	+3.0	+35	+61	+77	+75	+10	+0.7	+48	+3.3	-1.2	+0.9	+0.1
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SELECTION INDEX VALUES

Market Target	Index Value	Breed Average
Terminal Index	+44	+28
Self Replacing Index	+59	+37

GENUS ABS CALVING SURVEY		419 CALVES	194 HERDS	HIGH RELIABILITY	
BELOW AVERAGE 70		AVERAGE 100		EXCELLENT 130	BSI SCORE
Calving Ease (heifers)					130
Calving Ease (cows)					130
Gestation Length					100
Calf Quality					124
Calf Survivability					130
Genus ABS Breed averages:		Calving Ease (cows) 1.5%		Calving Ease (heifers) 4.9%	
		Gestation Length 282 days		Calf Survivability 3.6%	

FELIX

Quality calver with shorter than average gestation length.

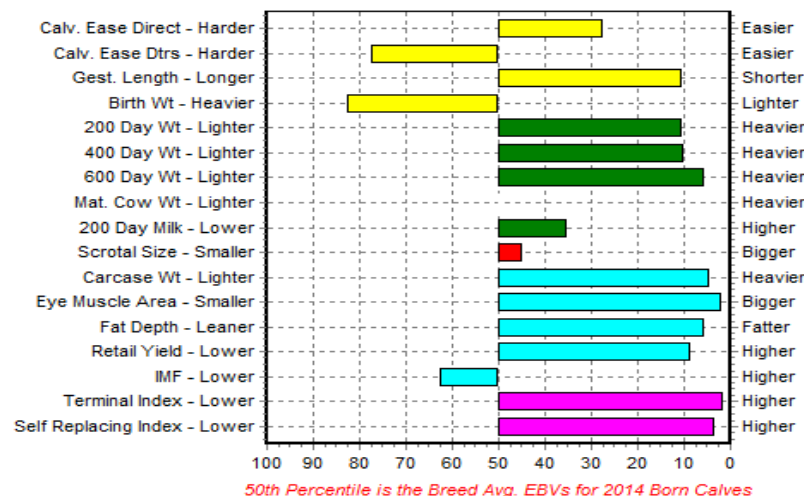


SACKVILLE FELIX



PROGENY OF FELIX

EBV Percentiles for SACKVILLE FELIX (UK262184100145) MBM0045676



February 2016 BRITISH CHAROLAIS BREEDPLAN ANALYSIS

	Calving Ease Direct (%)	Calving Ease Daughters (%)	Gestation Length (days)	Birth Wt. (kg)	200 Day Wt. (kg)	400 Day Wt. (kg)	600 Day Wt. (kg)	Mat. Cow Wt. (kg)	200 Day Milk (kg)	Scrotal Size (cm)	Carcass Wt. (kg)	Eye Muscle Area (sq cm)	Fat Depth (mm)	Retail Beef Yield (%)	IMF (%)
EBV	+4.4	-3.5	+0.3	+3.7	+33	+59	+73	-	+7	0.0	+56	+5.9	+0.3	+2.0	-0.1
Acc	61%	55%	73%	78%	76%	73%	71%	-	54%	60%	61%	42%	52%	48%	39%
Breed Avg. EBVs for 2014 Born Calves Click for Percentiles															
EBV	+0.2	-0.3	+1.3	+2.6	+27	+45	+51	+50	+6	-0.1	+41	+3.1	-0.3	+1.1	-0.1

SELECTION INDEX VALUES

Market Target	Index Value	Breed Average
BCCS Terminal Index	+65	+39
BCCS Self Replacing Index	+59	+37

GENUS ABS CALVING SURVEY

89 CALVES

83 HERDS

LOW RELIABILITY

	BELOW AVERAGE 70	AVERAGE 100	EXCELLENT 130	BSI SCORE	ACTUAL STATISTIC
Calving Ease (cows)				70	7.7%
Gestation Length				106	286 days
Calf Quality				120	60%

Genus ABS Breed averages:

Calving Ease (cows) 4.6%

Gestation Length 287 days

GALILEO

Sired by Emilies Colossus, an Ojrat son,
Galileo possesses phenomenal figures for growth.
He is suited to both the dairy farmer and the pedigree breeder.



LIMOUSIN

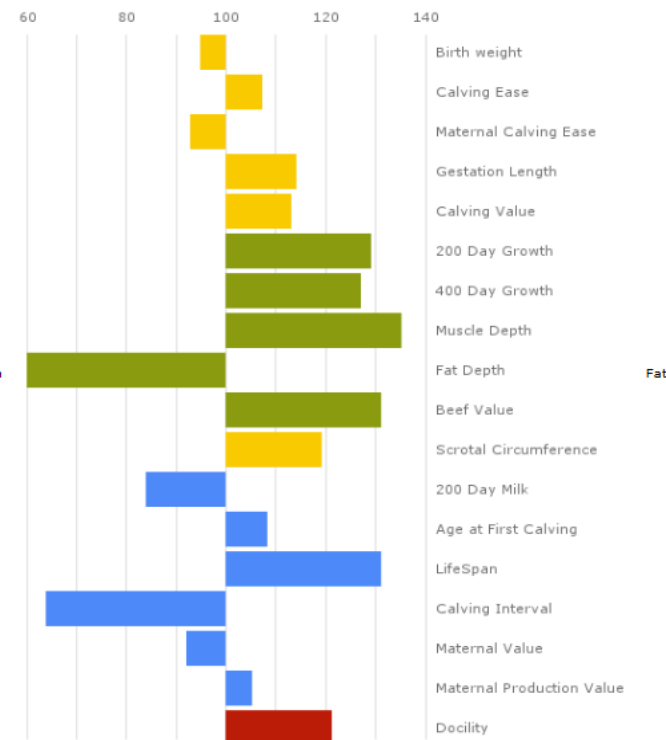
PROVEN SIRE

EMSLIES GALILEO
EAR TAG: UK 520779 101169
GENUS CODE: LN2442



Analysis date: 09/11/2015

	EBV	accuracy
Birth weight	2.10	79%
Calving Ease	-1.20	69%
Maternal Calving Ease	-0.40	43%
Gestation Length	-1.30	85%
Calving Value	3.00	84%
200 Day Growth	46.00	77%
400 Day Growth	81.00	78%
Muscle Depth	7.40	73%
Fat Depth	-0.80	68%
Beef Value	47.00	79%
Scrotal Circumference	0.80	68%
200 Day Milk	-3.00	43%
Age at First Calving	-0.07	52%
LifeSpan	1.50	61%
Calving Interval	16.40	52%
Maternal Value	-7.00	52%
Maternal Production Value	7.00	63%
Docility	5.50	48%



GENUS ABS CALVING SURVEY

215 CALVES

113 HERDS

HIGH RELIABILITY

	BELOW AVERAGE 70	AVERAGE 100	EXCELLENT 130	BSI SCORE	ACTUAL STATISTIC
Calving Ease (cows)				127	0.6%
Gestation Length				108	287 days
Calf Quality				116	55%
Calf Survivability				130	1.9%

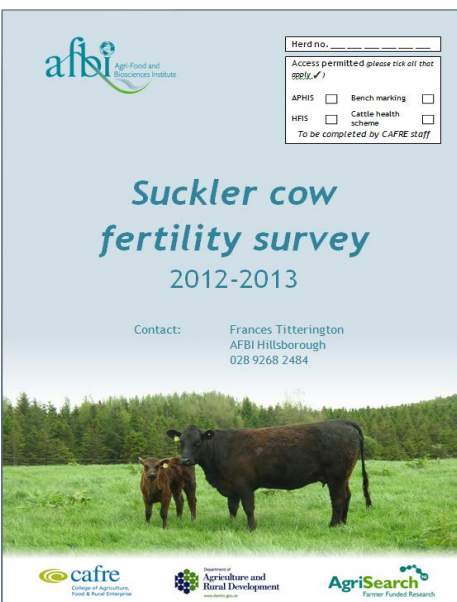
Genus ABS Breed averages:

Calving Ease (cows) 2.4%

Gestation Length 288 days

Calf Survivability 5.4%

- survey of 105 suckler cow farmers
- when asked to compare 2 bulls with EBV charts and figures, those farmers who were unsure had a significantly longer calving interval (CI)
- farmers who used visual selection rather than EBVs to select bulls had poorer fertility



- CI was 15 days longer
- 6.7 % higher proportion of cows had CI > 450 days

Highlights the importance of using EBVs in sire selection

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

- ◆ Cost - £15 - £25 (dependent on protocol) plus AI charge and semen
- ◆ Conception rates to first service (typically 45 – 75 % to first service)



Synchronisation programmes evaluated

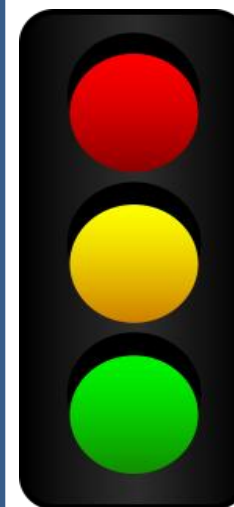
Day	Mon	Tue	Wed	Thur	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Results	Synchro. Cost
Heifer 1	Prog d. in & GnRH					Prog d. out & PG			FTAI & GnRH			48%	£25
Heifer 2	Prog d. In							PG	Prog d. out		FTAI	74%	£15
Cow 1	Prog d. in & GnRH							Prog d. out & PG			FTAI & GnRH	60%	£25
Cow 2	Prog d. in & GnRH							PG	Prog d. out	GnRH	FTAI	62%	£25

Prog d.: Progesterone device
PG: Prostaglandin

GnRH: Gonadotrophin Releasing Hormone
FTAI: Fixed Time Artificial Insemination

Conception to 1st service

Farm	Heifer 1	Heifer 2	Cow 1	Cow 2
A	35% (9/26)	81% (21/26)		55% (22/40)
B		70% (14/20)	53% (8/15)	
C	50% (2/4)		46% (12/26)	
D	45% (5/11)		79% (22/28)	
E	75% (3/4)		64% (16/25)	
F		88% (7/8)		72% (31/43)
G	60% (3/5)		61% (14/23)	
H	66% (4/6)		60% (34/57)	
I	46% (6/13)		50% (10/20)	
J	67% (6/9)		60% (6/10)	
K	45% (13/29)			
L		64% (14/22)		58%(15/26)
TOTAL	48%	74%	60%	62%



<50%
Disappointing

50-59%
Acceptable

>60%
Good

Michael Griffith

Minimal handling protocol used

Day	Mon	Tue	Wed	Thur	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Results
Heifer 1	Prog d. in & GnRH					Prog d. out & PG			FTAI & GnRH			66% (4/6)
Cow 1	Prog d. in & GnRH							Prog d. out & PG			FTAI & GnRH	60% (34/57)

Prog d.: Progesterone device

GnRH: Gonadotrophin Releasing Hormone

PG: Prostaglandin

FTAI: Fixed Time Artificial Insemination



AI SERVICES
– NORTHERN IRELAND –



Preliminary findings from study indicate:

- ◆ Minimal handling heifer protocol resulted in poorer conception to first service
- ◆ 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:

- ◆ Results can be variable (35-88%)
- ◆ Good handling facilities are essential
- ◆ Plan ahead and discuss with your vet and AI technician
- ◆ Cows may calve over 7 – 14 day period so need adequate number of calving pens
- ◆ Herd health and nutrition
- ◆ Other variables could have negative impact (e.g. Weather)



AI SERVICES
– NORTHERN IRELAND –

Evaluation of sexed semen for increasing suckler herd output

- ◆ Sexed semen has potential to increase suckler herd output by:
 - increasing number of maternal females born for replacements
 - increasing the number of terminal males born for beef production
 - reducing birth weights to aid calving ease for heifers

- ◆ To date there has been limited use of sexed semen

- within the beef industry
- with synchronisation protocols

- ◆ Limitations due to:

- bull availability
- more expensive
- expected lower conception rates

AFBI suckler herd breeding regime

Synchronisation protocol	Heifer 2		Cows 2		
	Conv. ST	Female ST	Conv. ST	Female ST	Male CH
Semen type	Conv. ST	Female ST	Conv. ST	Female ST	Male CH
Number	22	34	26	38	34
Conception to first service*	59%	59%	58%	61%	68%

Conv. = conventional semen ST = Stabiliser CH = Charolais
 *these are preliminary results which need interpreted with care as limited supporting data

Benchmarking Farm Performance

Suckler - Beef

Physical performance	2014/2015	
	Average	Top 25%
Number of Cows	47	41
Calves/cow/year	1.02	1.16
Concentrates fed (kg/cow)	925	927
DLWG (Steers-kg/head/day)	0.86	0.87
Kg Liveweight/ha	498	598
Stocking Rate (ce/ha)	1.6	1.7

Benchmarking Farm Performance

Suckler - Beef

Financial performance (£/Cow)	2014/2015	
	Average	Top 25%
Total output	1,011	1,230
Total variable costs	428	401
Gross Margin Per Cow	584	829
Gross Margin per Hectare	541	778

*does not include labour, conacre, finance, SFP, LFACA or CMS

Hope Can Sometimes Be Profitable (HCSBP)

- **H**erd health - don't live in hope - take control of herd health & put a good plan in place
- **C**ondition score management vital – can save you money or cost you heavily
- **S**ynchronisation – a mechanism to successfully aid AI usage in suckler herds **provided** herd health and condition score management are correct
- **B**ull selection based on EBV's will lead to improved herd performance
- **P**rofitability – comes from a combination of factors

Hope Can Sometimes Be Profitable (HCSBP)

Notes