Suckler Beef Farm Walk

"Use of Synchronisation and AI on suckler herds"

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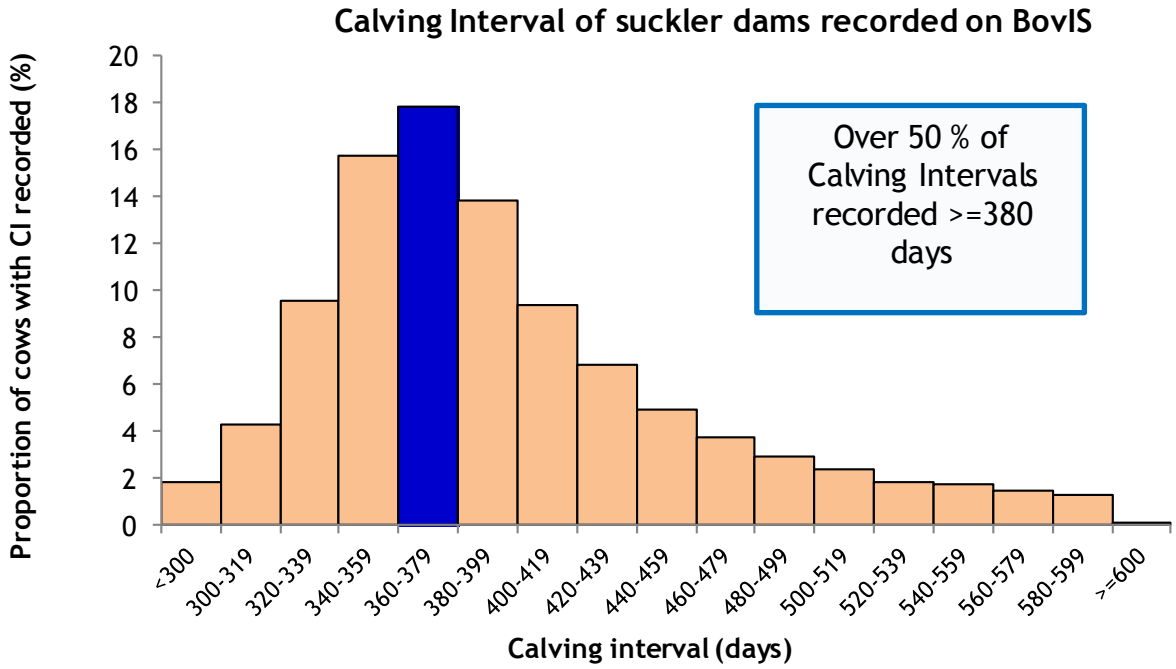
Wednesday 23rd March 2016

Farm Walk

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



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Herd health planning

- **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

AFBI herd health scheme

- **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

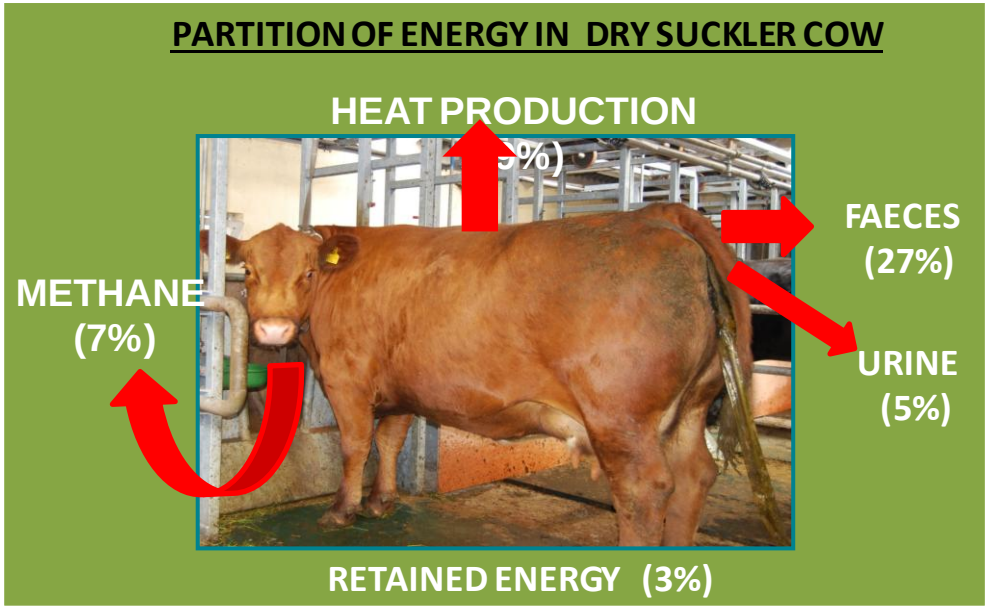
- Wasting disease with no treatment available – over two years olds tested each year
- Cull infected stock to keep herd Johne's free

Good biosecurity is vital

Body condition score

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

Body condition score

Importance for fertility

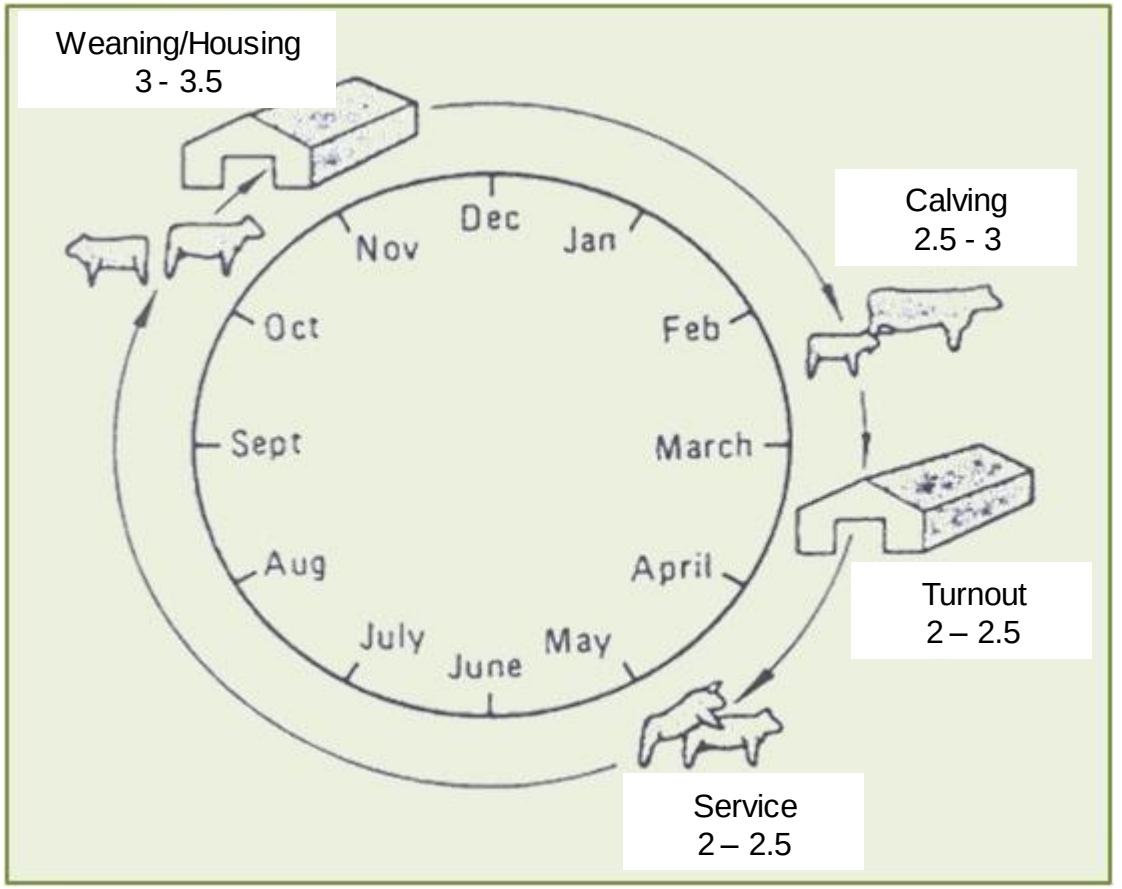
- Body condition score affects fertility

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

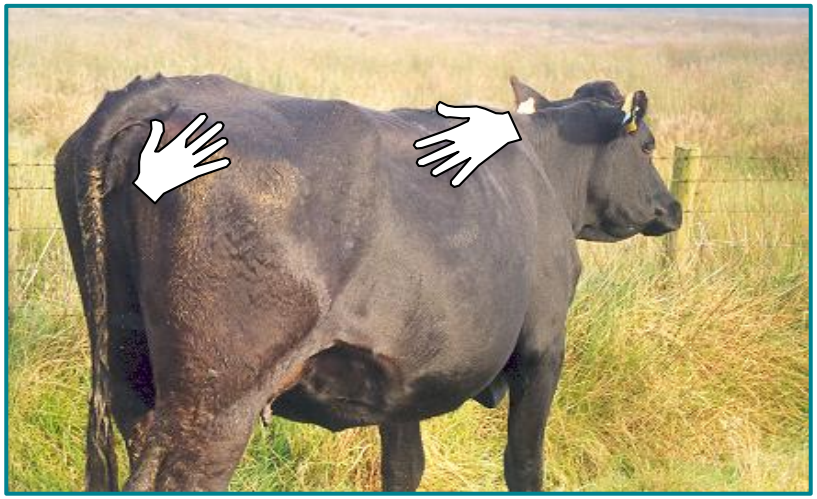


Body condition score

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

Body condition score

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

Bull Selection

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

MacG Aug '13

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

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AMERICANO

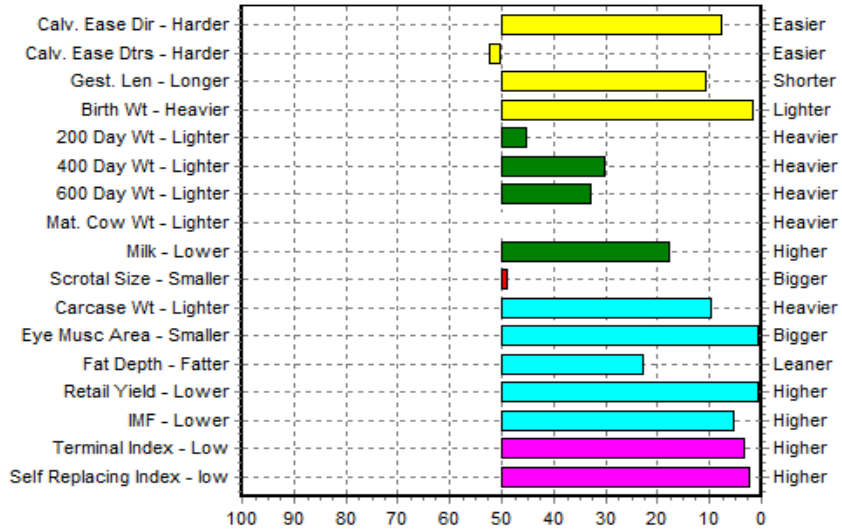
Son of proven Genus ABS sire, Netherton Mr Rader.

ABERDEEN ANGUS

PROVEN SIRE

NETHERTON AMERICANO
EAR TAG: UK542697 200703
GENUS CODE: AA1298

EBV Percentiles for NETHERTON AMERICANO M703



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

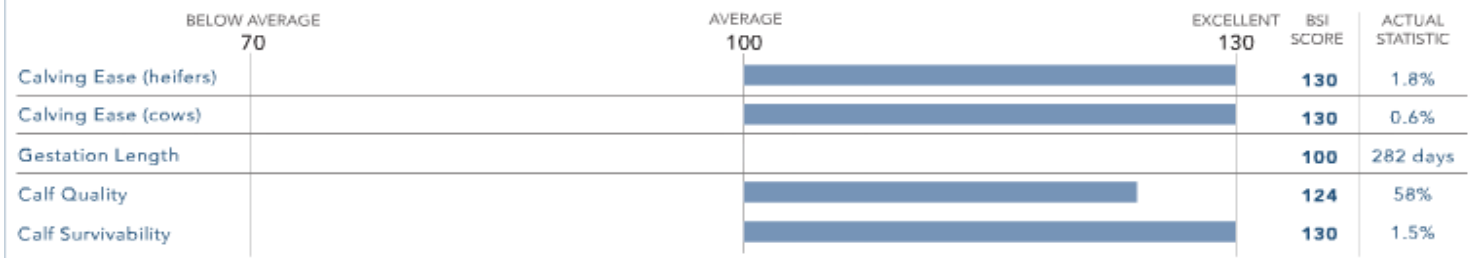
February 2016 Aberdeen-Angus BREEDPLAN

	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

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



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HAMLET

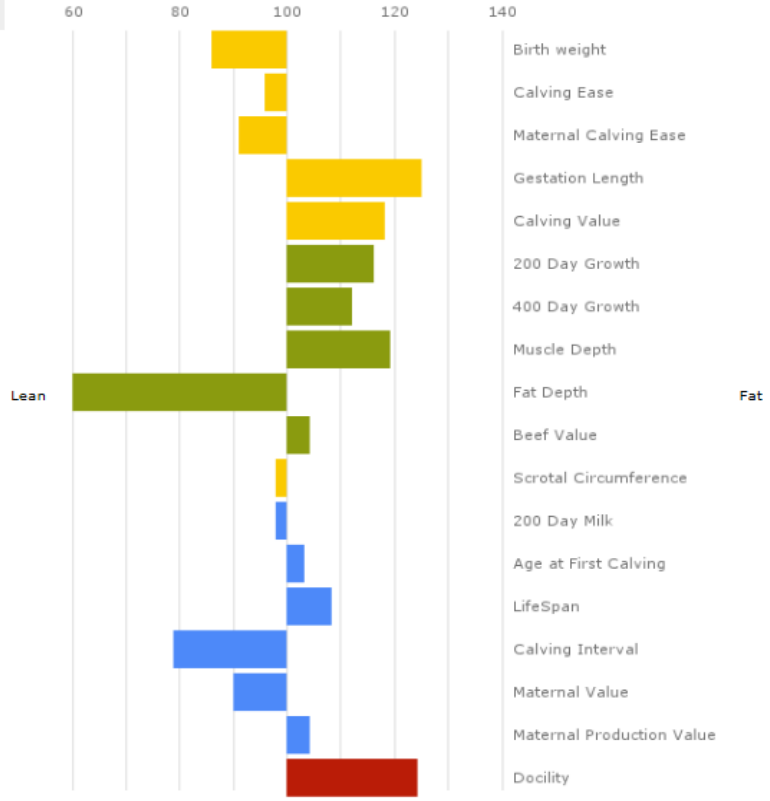
Outcross genetics giving calves of phenominal quality.
Suitable for pedigree breeders or crossbreeding.

LIMOUSIN
PROVEN SIRE

LODGE HAMLET
EAR TAG: UK 542928 200346
GENUS CODE: LN2459

Analysis date:09/11/2015

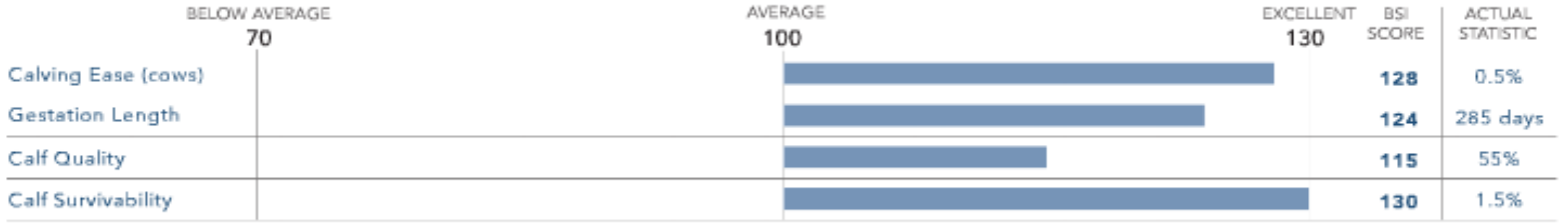
	EBV	accuracy
Birth weight	2.80	85%
Calving Ease	-2.60	84%
Maternal Calving Ease	-0.50	54%
Gestation Length	-2.70	96%
Calving Value	3.00	95%
200 Day Growth	35.00	80%
400 Day Growth	58.00	80%
Muscle Depth	5.20	74%
Fat Depth	-0.90	69%
Beef Value	26.00	83%
Scrotal Circumference	0.20	71%
200 Day Milk	-1.00	52%
Age at First Calving	-0.04	59%
LifeSpan	0.80	63%
Calving Interval	11.60	65%
Maternal Value	-8.00	60%
Maternal Production Value	6.00	69%
Docility	5.80	57%



DATA BASCO

This animal is BASCO Performance Recorded

GENUS ABS CALVING SURVEY — 182 CALVES — 91 HERDS — MEDIUM RELIABILITY



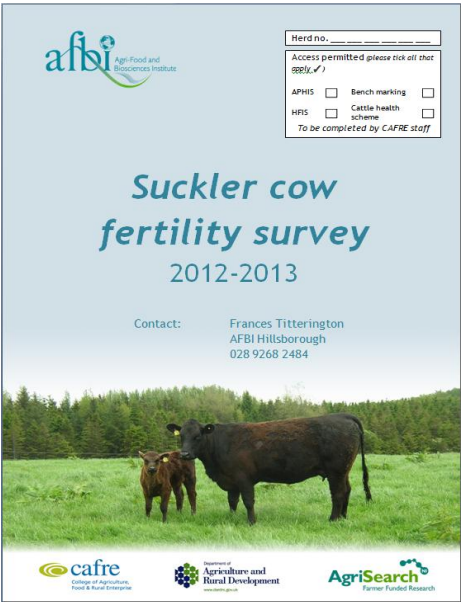
Genus ABS Breed averages: Calving Ease (cows) 2.4% Gestation Length 288 days Calf Survivability 5.4%

Suckler cow fertility survey

- 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

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Synchronisation

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)

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Synchronisation and AI

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

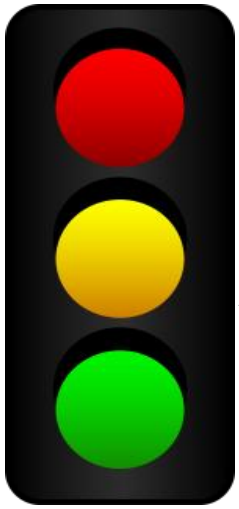
Synchronisation programmes evaluated

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

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David and Kenneth McKinstry

Protocols used

Summer Synchronisation

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			**45%** (5/11)
Cow 1	Prog d. in & GnRH							Prog d. out & PG			FTAI & GnRH	**79%** (22/28)

Winter Synchronisation

Day	Mon	Tue	Wed	Thur	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Results
Heifer 2	Prog d. in							PG	Prog d. out		FTAI	**68%** (13/19)
Cow 1	Prog d. in & GnRH							Prog d. out & PG			FTAI & GnRH	**69%** (9/13)

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

Synchronisation Summary

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)

AFBI suckler herd research

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		
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 date

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

Farm Walk Summary

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
- Profitability – comes from a combination of factors

Hope Can Sometimes Be Profitable (HCSBP)

Notes