Suckler Beef Farm Walk

"Use of Synchronisation and AI on suckler cows and heifers"

Stephen Maguire
Congo, Maguiresbridge, Enniskillen, Co. Fermanagh
BT94 4PN

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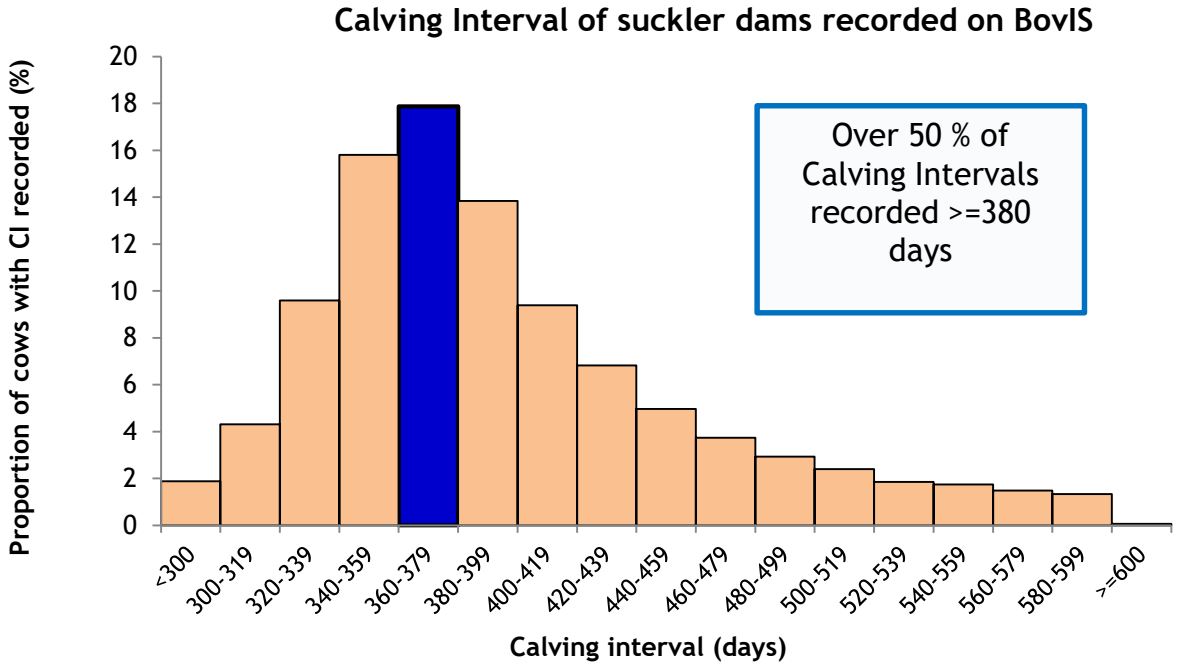
Farm Walk

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

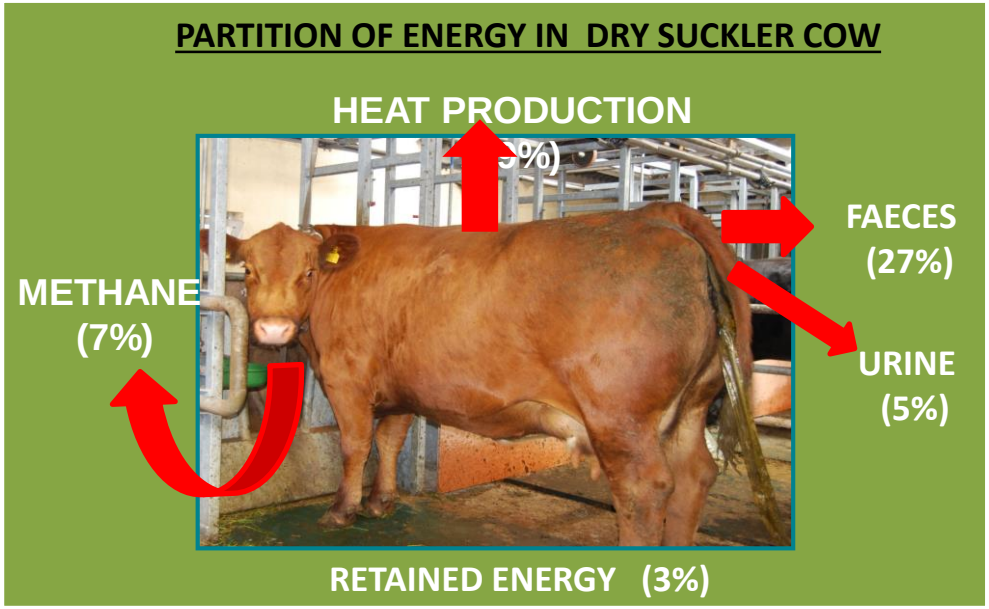
- Wasting disease with no treatment available – over two years olds tested each year
- Cull infected stock to keep herd Johne's free

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

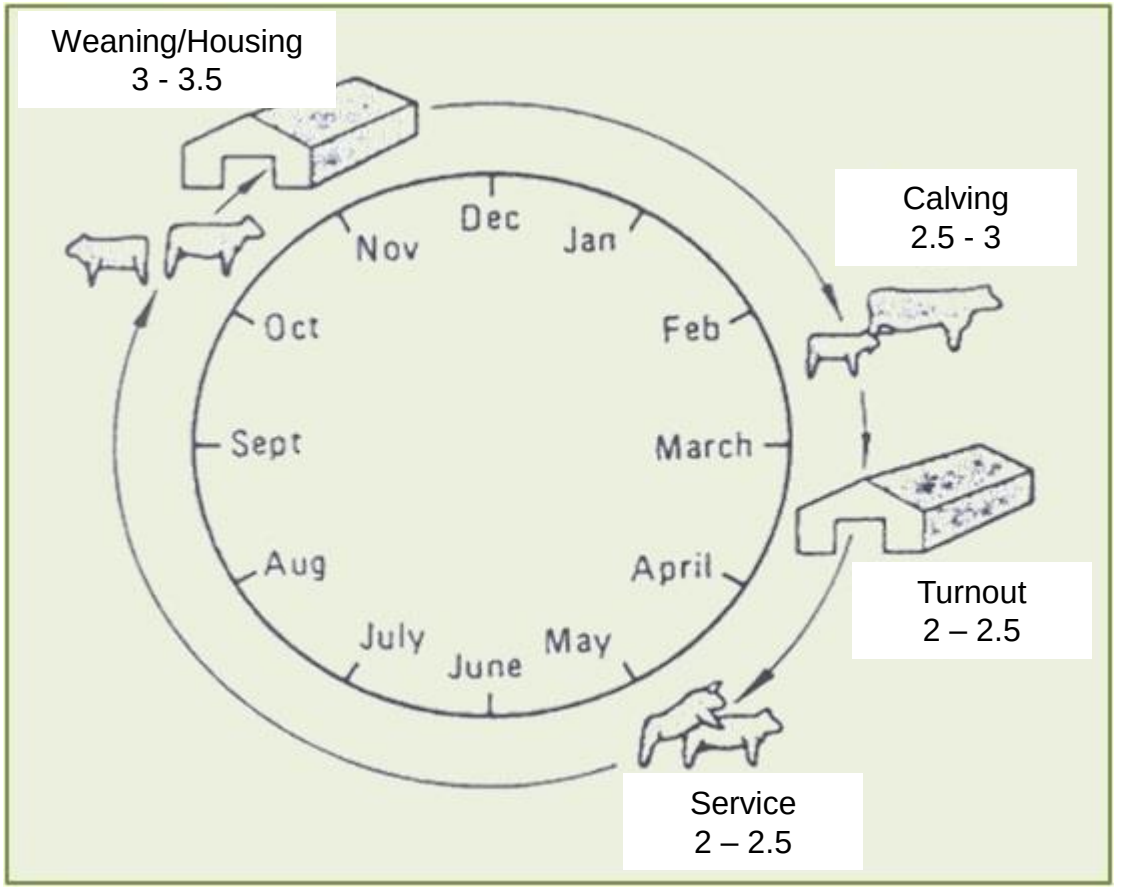
- Body condition score affects fertility

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

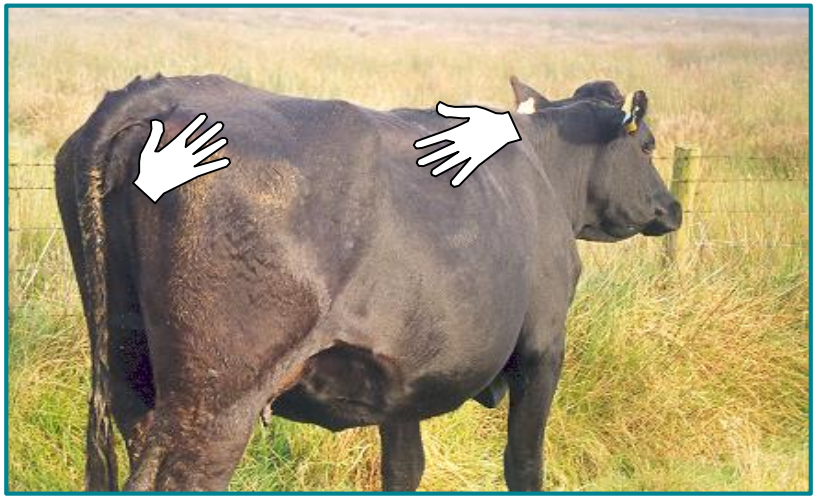


Body condition score

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

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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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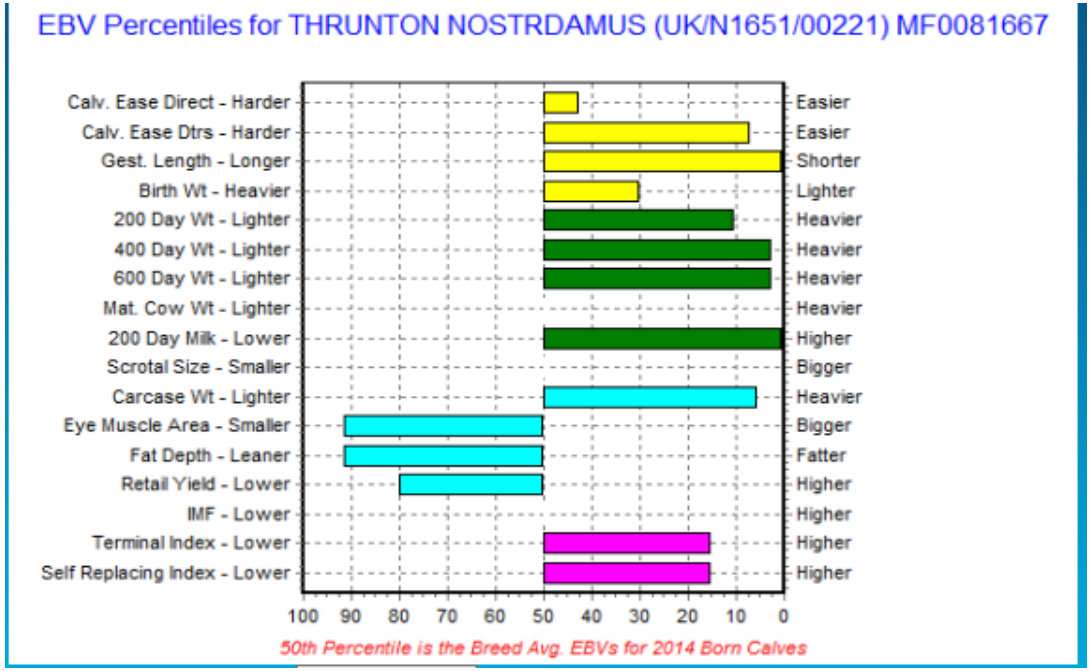
Thrunton NOSTRDAMUS

SUPERIOR CARCASE — **Charolais**

HB No. MF0081667 Ear Tag: UK/N1651/00221 DOB: 28.08.97



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)	Carcase Wt. (kg)	Eye Muscle Area (sq cm)	Fat Depth (mm)	Retail Beef Yield (%)	IMF (%)
EBV	+1.3	+5.9	**-0.9**	+2.0	+34	**+67**	**+77**	-	+15	-	+55	+1.8	-0.9	+0.5	-
Acc	75%	72%	81%	85%	80%	76%	77%	-	63%	-	64%	44%	48%	46%	-
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

Traits Observed: BWT,200WT(x2),400WT,600WT

Statistics: Number of Herds: **50**, Progeny Analysed: **85**, Scan Progeny: **5**, Number of Dtrs: **5**

SELECTION INDEX VALUES		
Market Target	**Index Value**	**Breed Average**
BCCS Terminal Index	+51	+39
BCCS Self Replacing Index	+48	+37

BREEDING PROFILE

- *Nostrdamus progeny show exceptional growth and good muscling*
- *Recommended for producing heavy weanlings and strong store cattle*
- *Excellent star rating for maternal traits*
- *Calving Ease Sire*

PEDIGREE

Sire Maerdy Location

Dam Thrunton Icicle

CALVING SURVEY INFORMATION

on Cows		Surveys	222
Mortality	5.4%	Avg Gestation Days	291
Size	Average 65.6%	Above Average	24.4%
Conformation	Average 69.6%	Above Average	24.2%
Non Surgical Vet Asst.	3.2%	Surgical Vet Asst.	1.8%

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GALILEO

Sired by Emslies Colossus, an Objat son,
Galileo possesses phenominal figures for growth.
He is suited to both the dairy farmer and the pedigree breeder.

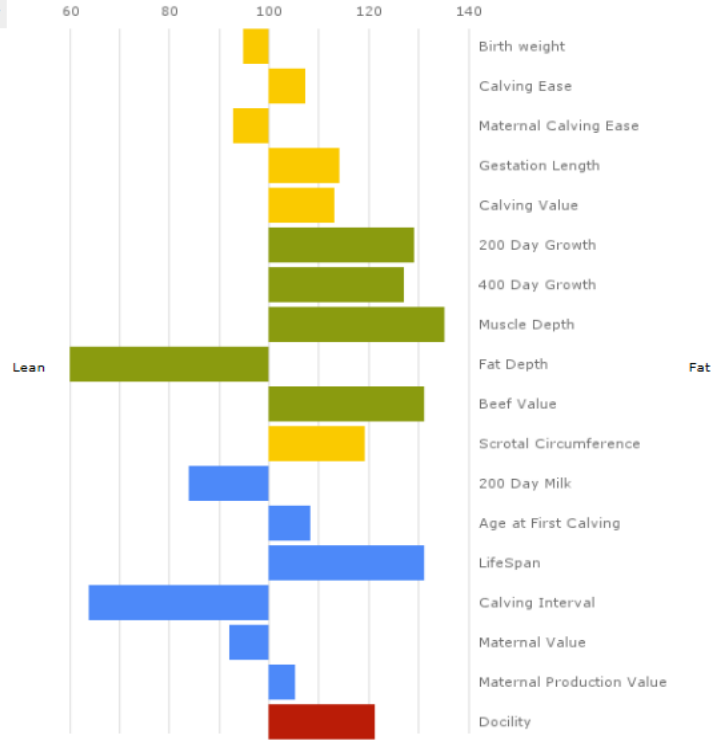
LIMOUSIN

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%



DATA BASCO

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%

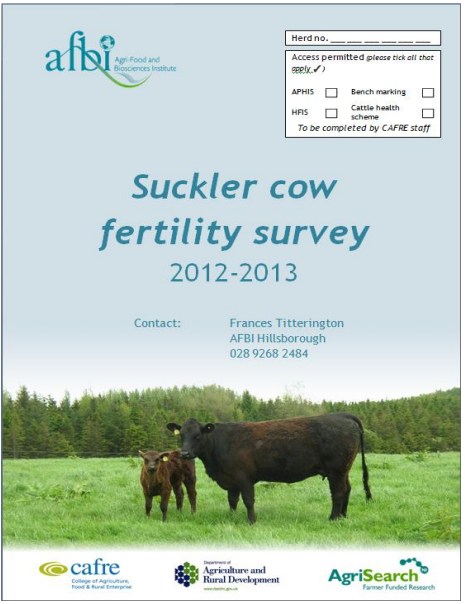
Genus ABS Breed averages: Calving Ease (cows) 2.4% Gestation Length 288 days Calf Survivability 5.4%

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

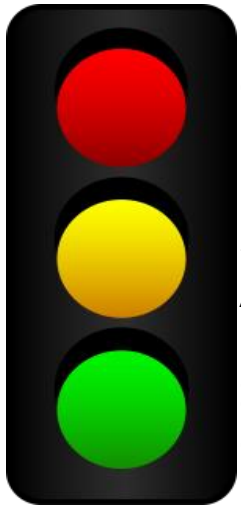
Synchronisation programmes evaluated

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

Stephen Maguire

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			**60%** (3/5)
Cow 1	Prog d. in & GnRH							Prog d. out & PG			FTAI & GnRH	**54%** (15/28)
Cow 1*	Prog d. in & GnRH							Prog d. out & PG			FTAI & GnRH	**61%** (14/23)

*Excluding problem cows

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

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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 – Weanlings/Stores

Physical performance	2014/2015	
	Stephen Maguire (15/16)	Average
Number of Cows	58	43
Calves/cow/year	1.00	1.00
Concentrates fed (kg/cow)	352	517
Kg Liveweight/ha	693	387
DLWG (Steers-kg/head/day)	0.85	0.91
Stocking Rate (ce/ha)	2.3	1.5

Benchmarking Farm Performance

Suckler – Weanlings/Stores

Financial performance (£/Cow)	2014/15	
	Stephen Maguire (15/16)	Average
Total output	812	779
Total variable costs	285	323
Gross Margin Per Cow	526	455
Gross Margin per Hectare	948	467

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