"Improving lowland sheep performance"

at the farm of:

Crosby Cleland

Brookmount Farm, 21 Greens Road, Saintfield. BT24 7EE

Wednesday 13th August 2014

Improving lowland sheep performance

Crosby Cleland, Brookmount Farm, Saintfield

Today's farm walk aims at providing you with information and tools to inform breeding, feeding and other management decisions

Topics for discussion include:

- Recording and benchmarking performance to inform selection and management
- Breeding strategies for a better ewe efficiency
- Grassland management
- Feeding lowland ewes for performance
- Diagnosis and treatment of lameness in sheep

Farm overview

Crosby Cleland, Brookmount Farm, Saintfield

700 breeding ewes + 220 breeding replacements on 170 acres of grassland

Housing/handling systems

- All ewes lamb indoors (March/April) on expanded metal flooring
- Individual pens (12 hours at lambing)
- Shearwell Farmworks recording and EID systems
- Labour efficiency:1 labour unit and seasonal staff, with limited farm machinery

Marketing & other farm uses

- All lambs marketed through Strangford Down Group
- AFBI research trials
- Focus Farm
- Involved with other farming related groups

Animal Health

- Faecal samples sent to AFBI to determine need for dosing
- Strict culling policy
- Veterinary students at lambing

Fencing enterprise

- Fencing and hedge planting team
- Have control of output prices

Breeding programme

Crosby Cleland, Brookmount Farm, Saintfield

Breeds

- Pure flock of Lleyn (40%), Primera (5%) and Highlander (5%)
- Maternal cross flock: Highlander on Lleyns (15%)
- Commercial flock to terminal sire (Primera) (10%)
- AFBI trial flock (25%)

Ram selection

- Rams are selected using performance records (EBVs)
- Main criteria used in ram selection:
  - Prolificacy/maternal ability
  - Carcass quality
  - Worm resistance

Key objectives

- To breed durable ewes from within the flock with the capacity to increase numbers of lambs weaned/ewe and kg produced/ha
- To increase lamb growth
- To have a labour efficient, easier-care and profitable working system

Benchmarking Farm Performance

Crosby Cleland, Brookmount Farm, Saintfield

Physical performance

	2011/12	2012/13	2013/14	2013/14 Average
Number of ewes	730	700	700	188
Lambs sold/ewe	1.57	1.58	1.34	1.35
Concentrates fed (kg/ewe)	89	90	134	70
Av. carcass weight (kg)	18	18	19	20
Kg Liveweight/ha	589	679	642	422
Ewes/ha	13	14.2	14	8

Benchmarking Farm Performance

Crosby Cleland, Brookmount Farm, Saintfield

Financial performance (£/ewe)

	2011/12	2012/13	2013/14	2013/14 Average
Lamb sales *	129	107	98	107
Replacement cost	7	15	16	14
Total variable costs	38	43	54	54
Gross margin / Ewe	88	54	31	41
Gross margin / Ha	817	512	300	383

* Excludes Wool sales

Benefits of recording animal performance

- Improve lambing percentage
- Improve grassland management
- Improve growth rate
- Improve ewe longevity
- Improve carcase value
- Provide information to make better decisions

"As a general rule, the most successful man in life is the man who has the best information"

Benjamin Disraeli

Benefits of recording animal performance

	Improve by	Value per ewe
Numbers (per ewe)	0.2 / ewe	£16.00
Stocking rate	1 ewe / ha	£ 6.50
Lamb growth	10%	£ 4.80
Longevity (replacement)	5%	£ 4.00
Carcase Grade	R – U 50%	£ 1.68
	Total	£ 33
Flock value	200	**£ 6,596**

Recording animal performance

How do you manage information?

Notebook
£1

Simple Handheld reader/data collector
£600-£800

High Spec Handheld reader/data collector
£1000-£1500

Handheld EID Tag Reader
£200 - 800

Weighing / Drafting
£400 – £10,000

Computer + Software
£200 - £800

System Cost £400 - £12,000

Working in partnership with industry

Selecting ewes for maternal traits

Hillsborough Management Recording Scheme

Objective:

Identify ewes in commercial flocks suited to easier-care systems

Recording requirements and outputs:

Step 1: Simple recording of key traits for easier management (lambing ease, mothering ability, lamb viability)

- *Provision of summary report*

Step 2: Simple recording of lamb live weights

- *Provision of performance index of ewes, with animals ranked on a scale 0-100*

Ewe no:	*52*	Date of lambing:	*21/03/05*
Ewe breed:	*B*	Sire breed (ID)	*LL*
Ewe details			
Age at lambing:	1-yr	(2-yr)	3yr+
Lambing difficulty score:	No help	Little help	Manual delivery: (OK) / Difficult
If helped Why?	Management	(Oversized)	Malpresented
Mothering ability:	(Follows whatever)	Stands well back	Leaves lambs
Lamb details			
Lamb tag no:	22	23	24
Lamb sex:	(M) / F	M / (F)	(M) / F
Fostered to:	Ewe no	Ewe no	Ewe no
Lamb viability:	(Up & suck) / Slow suck / Help suck	Up & suck / (Slow suck) / Help suck	Up & suck / Slow suck / (Help suck)
Date of mortality:			
General ewe problems			
Teat problems:		(Yes)	
Insufficient colostrum:		(Yes)	
Prolapse:		(Yes)	

Working in partnership with industry

Benefits of selecting from performance records

Towards easier care systems

Case study (Hillsborough Management Recording scheme)

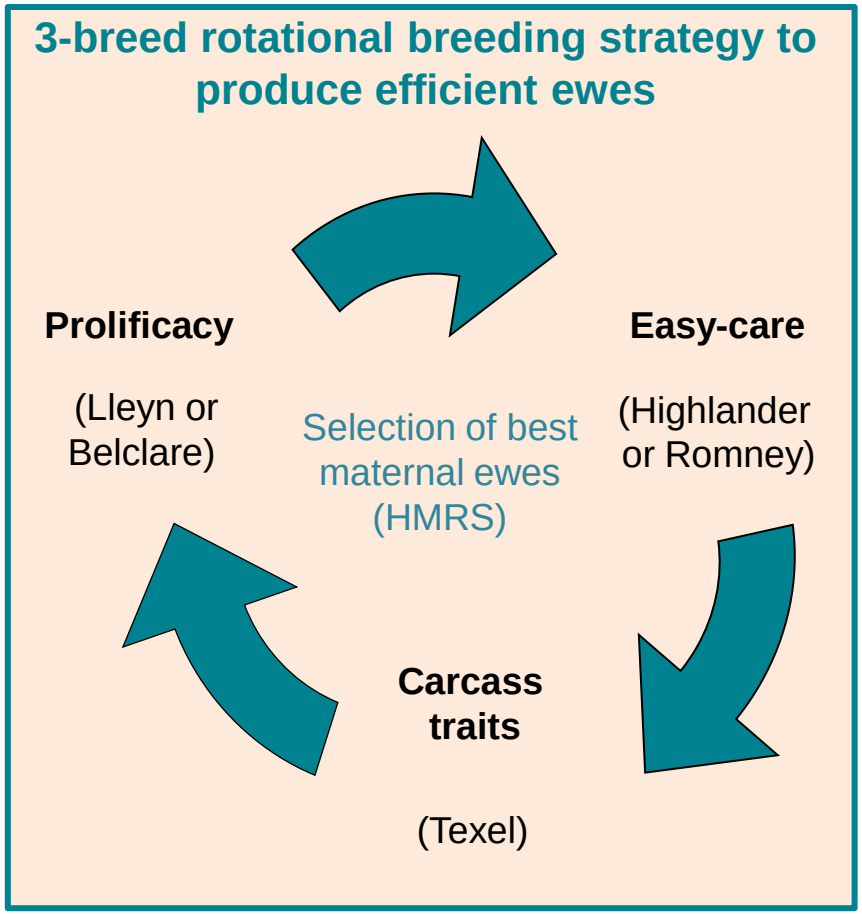
Average number of ewes in the flock: 80 (mostly Blackface)

	2007	2008	2010	2013	2014	Trend
Easier management traits						
% ewes lambed unaided	65	55	67	80	84	+
% ewes who follows lamb	77	72	97	97	96	+
% lambs up to suck	93	95	96	94	84	= or -
Productivity traits						
Nb lambs born per ewe	1.42	1.44	1.50	1.50	1.45	+
% lambs born alive	97	98	99	98	96	=

Breeding strategies for efficient lowland flocks

Breeding replacement ewes

- **Poor ewe fertility** and **lambing difficulties** are the main constraints on profitability
- Current research is investigating maternal breeding strategies to deliver more lambs with less difficulty
- Rotational breeding strategy: to introduce maternal traits, whilst still delivering high lamb output to market specifications
- Ewes lambed down for the first time at 2 years old
- Crossbred ewes were mated to a range of terminal sire-breeds



Breeding strategies for efficient lowland flocks

Breeding replacement ewes

Performance of composite ewes on 6 lowland flocks (1, 2 and 3 crop ewes)

Sire of dam	**Mating weight** (kg)	**Lambs born** (/ewe lambed)	**Tot lamb birth weight** (/ewe lambed)	**% ewes needing help**	**Mothering ability** (% follows whatever)	**Lambs weaned** (/ewe lambed)	**Tot lamb weight weaned** (kg/ewe)	**Ewe efficiency** (kg lamb weaned/kg ewe)
Lleyn/ Belclare	61	1.81	8.5	14	97	1.52	48	0.79
Highlander	60	1.89	8.5	13	99	1.62	52	0.85
Romney	63	1.92	8.8	17	93	1.58	51	0.83
Texel	62	1.75	8.3	23	98	1.39	45	0.73

- Highest **weaning rates** for Highlander x and Romney x ewes (1.6)
- **Lambing assistance** :13-17% ewes needed help (except Texel x) (usually 20-40% for NI flocks)
- Good efficiencies up to 85% for Highlander x ewes and no effect of age at mating
- Work ongoing to assess their longevity and the effect of terminal sire breeds on those characteristics

Breeding strategies for efficient hill flocks

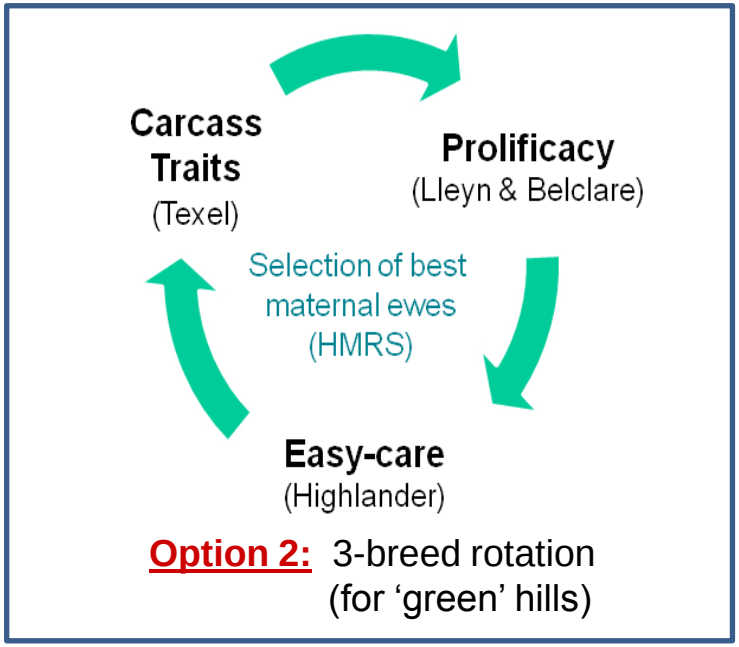
Breeding replacement ewes

- **Poor ewe fertility** and **lamb growth performance** are the main constraints on profitability
- Efficiency of **crossbred ewes** shown to be equal or superior to that of purebred Blackface (BF), in particular Lleyn x BF and Swaledale x BF
- **Rotational breeding strategy**: to introduce additional traits
- Ewes lambed down for the first time at 2 years old
- Crossbred ewes were mated to a range of terminal sire-breeds

Replacement breeding strategies for hill sheep flocks

Blackface ⟷ **Swaledale**

Option 1: Criss-cross (for 'hard' hills)



Option 2: 3-breed rotation (for 'green' hills)

Breeding strategies for efficient hill flocks

Breeding replacement ewes

Performance of different ewe types on 6 hill flocks (1, 2 and 3 crop ewes)

Ewe breed	**Mating weight** (kg)	**Lambs born** (/ewe lambed)	**% ewes needing help**	**Lambs weaned** (/ewe lambed)	**Tot lamb weight weaned** (kg/ewe lambed)	**Ewe efficiency** (kg lamb weaned/kg ewe)
Blackface x	50	1.36	12	1.20	34	0.66
Swaledale x	49	1.56	6	1.37	40	0.80
Belclare x	51	1.59	17	1.32	40	0.72
Highlander x	53	1.63	16	1.35	40	0.77
Lleyn x	52	1.47	17	1.26	36	0.70
Texel x	56	1.47	22	1.21	38	0.67

- **Variability in weaning rates** (> 1.35 for two ewe types)
- **Lambing assistance**: only 6-17% ewes needed help (except Texel x) (usually 20-40% for NI flocks)
- **Efficiencies**: variable, highest for Swaledale x and Highlander x ewes
- Work ongoing to assess their longevity and the effect of terminal sire breeds on those characteristics

Grassland Management

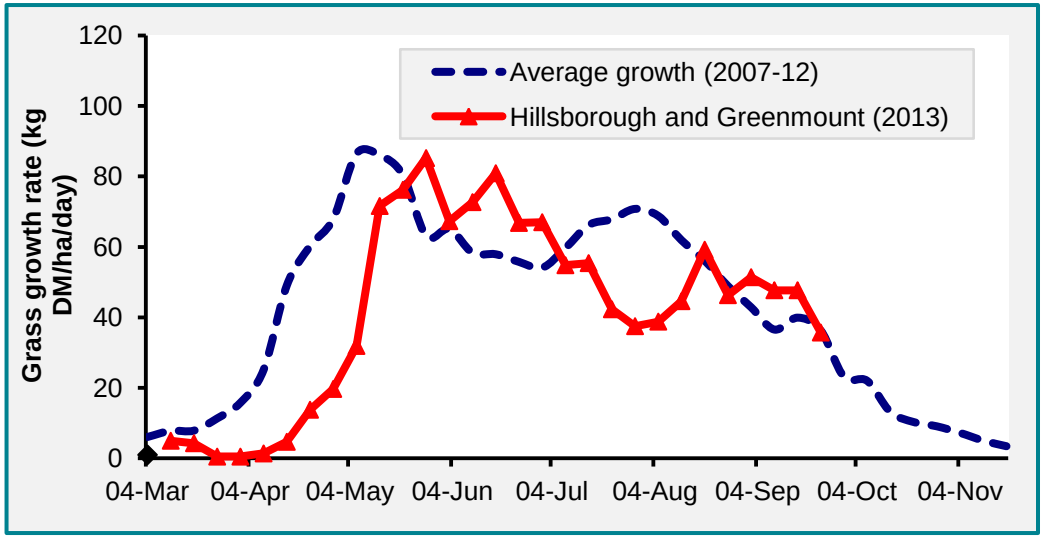
Crosby Cleland, Brookmount Farm, Saintfield

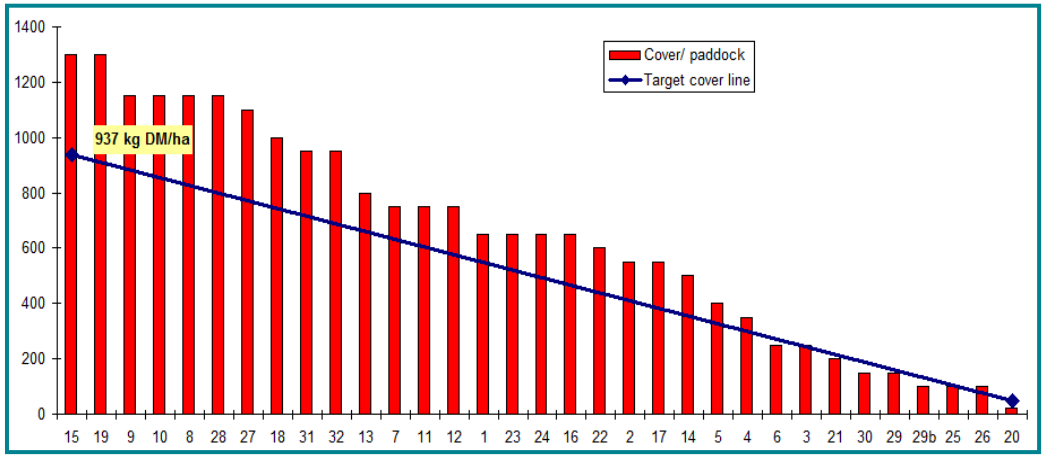
- Lamb production is grass/clover based
- Reseeding on a “need to” basis
- Spot spraying when necessary
- Up to 30 units of N in Spring only, if necessary

Grazing strategies

- Paddocks near farm rested from November until lambing
- Triplets on best pasture and ad lib meal from 3 weeks up to intake of 0.25 to 0.5 kg per day
- Triplet bearing ewes on grass with meal 2 weeks before lambing
- Electric net moved each day for fresh grass

Managing grass





- Grass growth is variable but stock demand is constant
- Grass management is balancing supply and demand
- Take action when there are surpluses and deficits
- Try to maintain a “wedge”
- Sward heights – in at 10cm, out at 4cm
- 3 leaves, 3 days, 3 weeks
- Beginners – 5 or 6 paddocks
- Set stocking for sheep – maintain sward at 6cm

Grazing targets for sheep

After weaning: Fat ewes – 1650 kg DM/ha (3cm)
Thin ewes – 2450 kg DM/ha (6cm)

Tupping: 1800 kg DM/ha (5cm)

Mid-pregnancy: Graze down to 1500kg DM/ha (3cm)

Lambing outside: Onto 1800 kg DM/ha (6cm) 4-6 weeks pre-lambing

Managing clover swards

Clover sizes

- Small leaved (AberAce) for sheep grazing
- Medium leaved (Crusader) for general purpose swards
- Large leaved (Alice) for general purpose swards with more silage or cattle grazing
- Very large leaved (Aran) for silage swards with little grazing

Newly established white clover

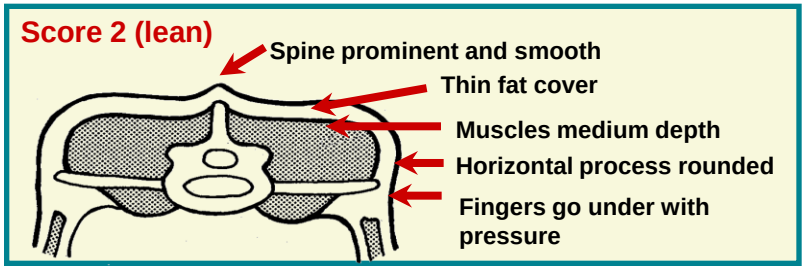
Clover swards

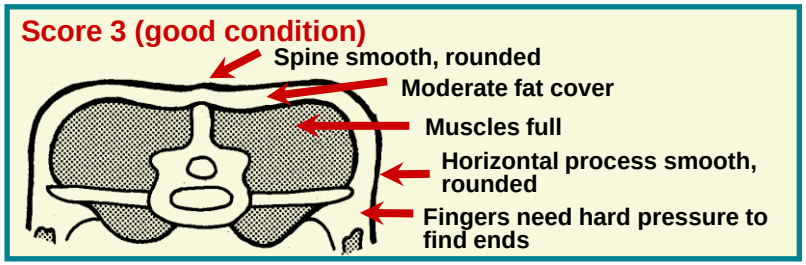
- 5-20% improvement in stock performance
- With no/little fertiliser, can perform like a grass sward receiving 180kg N/ha/year
- Do not move stock onto a clover sward when it is wet or stock are very hungry to avoid bloat
- Sow white clovers with a range of leaf sizes. Do not bury clover seed too deep
- Clover is more sensitive to acidity (pH) and fertility (P&K) than is grass
- Rest in July, graze hard in November
- Take care with spray selection

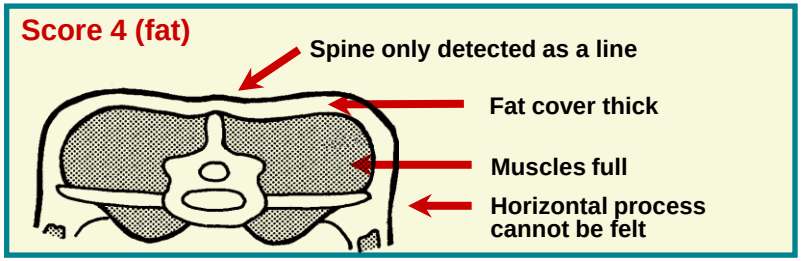
Feeding Lowland ewes for performance

Ewe management – Pre mating

- Knowing body condition at mating is critical
- Optimum condition score
  - Lowland ewes 3.5
- Increasing body condition by one condition score
  - 8 weeks grazing good quality grass
  - Increase of 9kg-12kgs liveweight for mature lowland ewe (70kg +)







Feeding Lowland ewes for performance

Ewe management – Nutrition pre mating

- Feed ewes according to body condition

Ewe body condition score		Sward height	DM intake Kg per day
Low	2.5 or below	5 – 7	1.3 – 1.4
Optimum	3.0 – 3.5	4	0.8 – 0.9
High	4 +	3	0.7

- Monitor condition and adjust feeding to avoid excess loss or gain in condition
- **Ewes in optimum condition score do not respond to flushing**

Feeding Lowland ewes for performance

Ewe management – Nutrition pre mating & early pregnancy

- First six weeks are critical for embryo survival
  - Avoid stress and sudden dietary changes 3 weeks post mating
  - Maintain condition score in early pregnancy
  - Ewes condition 4+ can afford to lose some condition
- Benefits of Se supplementation of ewes
  - Increase ewe fertility, higher growth rates, heavier lambs at weaning
  - Ewe body weight and condition maintained more efficiently, higher overall lamb output
- Sources available
  - Organic and inorganic
  - Injectable, boluses, drenches and feed additives

Diagnosis and treatment of lameness in sheep

Towards better treatment and prevention

Do you know the cause?

- Lameness can cause long-term pain and increase production and treatment costs
- Main issues identified in NI sheep flocks surveyed:

Shelly hoof

Scald

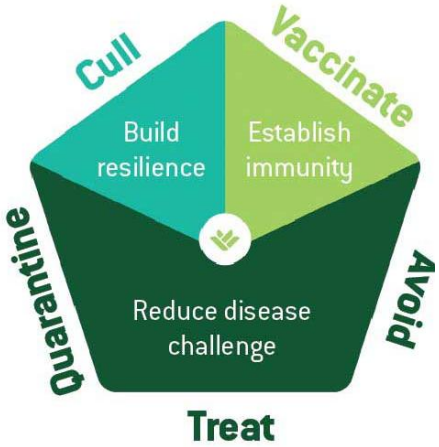
Footrot

Toe granulomas ('strawberry')

Key points

- Separate lame sheep and treat last, record/mark treated animals
- Clean and disinfect foot shears and treatment area, and dispose of any hoof trimmings

'Stamp out lameness'



Booklet available to:

- Better diagnose the cause
- Identify appropriate treatment options
- Know how to prevent the conditions

NOTES