afbi AGRI-FOOD & BIOSCIENCES INSTITUTE

AgriSearch NI
Driving Excellence & Innovation

cafre
College of Agriculture, Food & Rural Enterprise

LMC
Livestock & Meat Commission

Future Proofing Sheep Farming

BREEDING FOR PERFORMANCE ROADSHOW

Tuesday 9th July at 7pm
DRAPERSTOWN LIVESTOCK MARKET

CONTENTS

FOREWORD

On behalf of AFBI, it is a great pleasure to welcome you to the joint AFBI, AgriSearch, LMC and CAFRE 'Breeding for Performance' sheep event.

At this event leading scientists from AFBI and alongside experts from CAFRE and breeding specialists from Signet will outline the latest scientific developments and practical advice related to improving the performance of your sheep herd.

This event is taking place at a time of unprecedented change and challenge. On a global scale, challenges include increased food demand to meet the needs of an increasing world population, climate change, and associated pressure on land and water resources. Locally, challenges being faced by the Northern Ireland sheep sector are many and diverse. These include:

- volatility in prices and profitability
- sub-optimum flock performance
- new and emerging sheep diseases
- antimicrobial resistance and future limitations on antibiotic usage
- anthelmintic resistance
- need to optimise grassland management and productivity
- need to reduce greenhouse gas emissions to protect and improve the environment
- uncertainty associated with the UK's exit from the European Union
- demand for sheep meat and increasing competition from other food protein options
- concerns about animal welfare
- increasing retailer and consumer pressure
- succession and shortage of skilled labour

While some of these challenges are outside of our control, the development of robust production systems can help ensure that farm businesses are more resilient to these outside pressures. Nevertheless, many of the challenges can be controlled, or mitigated in part, through the application of research findings and improved management strategies on farms.

The production of efficient and healthy lambs at a rate per ewe suitable for the range of rearing environments in Northern Ireland continues to be of vital importance to the industry. These lambs once born must be able genetically and through management to thrive and deliver the lamb product the consumer demands. Therefore the primary objective of this 'Breeding for Performance' event is to share the latest research knowledge and developments in innovation for sheep systems. The specific topics being discussed at the event include: breeding programs and the use of genetic breeding values; flock health planning and its benefits; how to measure and monitor flock performance – key performance indicators to review and monitor.

This booklet provides a copy of each of the talks presented during the event and I would encourage you to discuss the topics with AFBI, AgriSearch and CAFRE staff.

Research undertaken by AFBI would not be possible without the financial support from DAERA, industry levy through AgriSearch, EU grant funding, and a wide range of other funders. Their support is gratefully acknowledged.

Finally, I would like to thank Draperstown Livestock Market for the use of their excellent facilities; our invited speaker Sam Boon (Signet) and the CAFRE, AFBI and AgriSearch staff who have worked tirelessly to deliver this event for this sheep industry.

Dr Steven Morrison (Head of AFBI Agriculture Branch)

Signet BREEDING SERVICES

Selecting the right Terminal Sire ram for your flock

Samuel Boon

Overview

- Using Estimated Breeding Values (EBVs) to select rams
- Signet performance recording and ram selection
- Changes to Signet Recording Services
- What is RamCompare?
  - What have we learnt?



Appearance = Genetics + Environment

What do Signet do?

Pedigree information on the lamb:
sire and dam

Performance data on the lamb:
liveweight and muscle depth

Signet's Genetic Evaluation
Taking into account all the influences on performance

~~Age~~
~~Sex~~
~~Flock feed/health~~
~~Dam age~~
~~Rear type~~
~~Fostering~~
~~ET~~
Genetic variation

EBVs

Breeding Indexes

Accuracy Values (0-99%)

What do Signet do?

LOT:	KNOCKIN SHOCKIN FBN: 17XXJ00376 Sire: OAKCHURCH RUBEN

	EBV	Accuracy
Eight Week Weight	2.83	97%
Litter Size	-0.06	63%
Maternal Ability	0.06	94%
Scan Weight	7.11	94%
Muscle Depth	2.8	96%
Fat Depth	0.77	97%
Terminal Sire Index	333	96%
Maternal Index	203	85%

CHAROLLAIS

Estimated Breeding Values	Top 50%	Top 25%	Top 10%
8 week weight	1.06	1.76	2.38
Litter size	0.00	0.03	0.06
Maternal ability	0.36	0.79	1.17
Scan weight	2.70	4.54	6.20
Muscle depth	0.73	1.36	1.92
Fat depth	-0.04	0.22	0.45
Terminal Sire Index	174	217	255
Maternal Index	150	186	219

EBV Bar Chart Format

LOT:	KNOCKIN SHOCKIN FBN: 17XXJ00376 Sire: OAKCHURCH RUBEN	DOB: 04/12/2016 Dam: KNOCKIN PALOMA

Signet

Analysis date: 26/04/2019 Below Average Above Average (Superior)

	EBV	Accuracy
Eight Week Weight	2.83	97%
Litter Size	-0.06	63%
Maternal Ability	0.06	94%
Scan Weight	7.11	94%
Muscle Depth	2.8	96%
Fat Depth	0.77	97%
Terminal Sire Index	333	96%
Maternal Index	203	85%

Genetic selection leads to increases in profitability

	Average carcase value	Average carcase weight	Average days to slaughter
Top 1% rams (avg. of 3 rams)	£74.94	18.5kg	107
Average index ram	£70.29	17.8kg	102

D. Nelless – Northumberland
Duncan uses high-index rams, increasing his carcase value by over £4 per lamb

How has Signet's analysis changed?

- Monthly analysis
  - Multi-breed evaluation with over a million records
- Weight adjusted carcase traits
  - Changes to the EBVs for
- New EBVs for CT traits
- New Breeding Indexes
- A new base and Breed Benchmark

Weight Adjusted Traits: How do I get a high muscle depth sheep?

- The sheep is big
- The sheep has a deep muscle depth, relative to its size

Scan Weight EBVs already tells us about big sheep, so shouldn't Muscle Depth EBVs tell us about muscling, independently from their size?

Weight Adjusted Traits

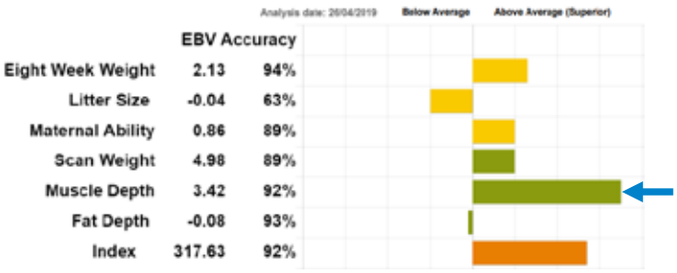
Greater commercial focus

Better indication of muscling and fatness/leanness at a fixed weight

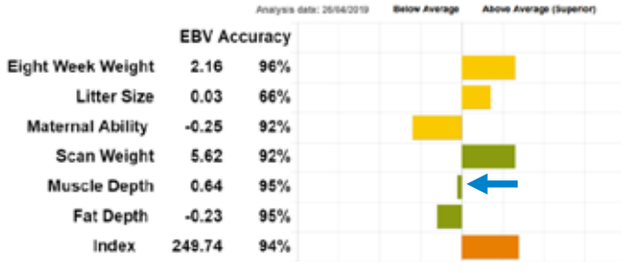
Example: RamCompare Charollais in Yorkshire



High EBV AI ram

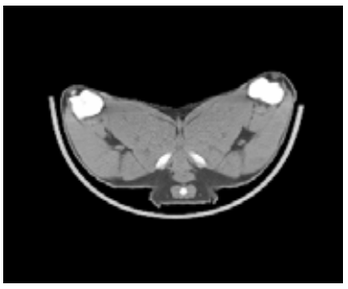


Stock ram



	U	R	O
Stock Ram A (*)	10%	79%	10%
AI Ram B (Lowerye)	62%	38%	

Computed Tomography and the release of new CT derived EBVs

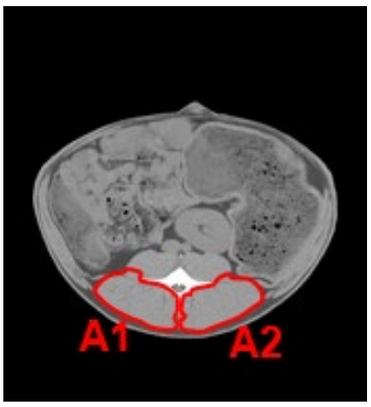


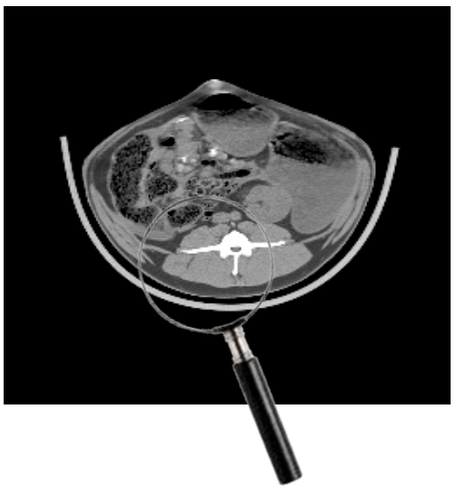
Already assess:

- CT Lean Weight
- CT Fat Weight
- CT Gigot Muscularity

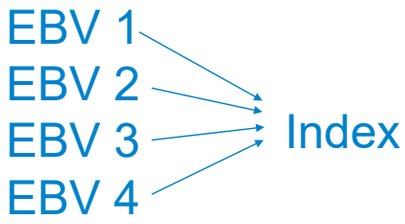
New CT Traits

AHDB





New Breeding Indexes



Terminal Sire Index
Aim: Sheep to breed fast growing, well fleshed lambs – that finish quickly

Maternal Index
Aim: Sheep to breed prolific, milky females that are not overly large and produce fast growing, well fleshed lambs – that finish quickly

EBVs have been rebased

- Old EBVs related to the average animal in the breed in the 1990s
- New EBVs relate to the average animal in the breed in 2010
- Rescaled EBVs and Indexes
  - Smaller, but more relevant
  - New Benchmark needed

CHAROLLAIS

Estimated Breeding Values	Top 50%	Top 25%	Top 10%
Maternal ability	0.36	0.79	1.17
Litter size	0.09	0.03	0.06
8 week weight	1.06	1.76	2.36
Scan weight	2.70	4.54	6.20
Muscle depth	0.73	1.36	1.92
Fat depth	-0.04	0.22	0.45
Terminal Sire Index	174	217	255
Maternal Index	150	186	219

BELTEX

Estimated Breeding Values	Top 50%	Top 25%	Top 10%
Maternal ability	-0.13	0.11	0.33
Litter size	0.02	0.05	0.08
8 week weight	0.90	1.51	2.07
Scan weight	2.33	3.99	5.34
Muscle depth	0.09	0.64	1.13
Fat depth	0.00	0.25	0.47
Terminal Sire Index	137	173	205
Maternal Index	132	159	182

HAMPSHIRE DOWN

Estimated Breeding Values	Top 50%	Top 25%	Top 10%
Maternal ability	0.20	0.42	0.61
Litter size	0.01	0.04	0.07
8 week weight	0.83	1.56	2.12
Scan weight	2.34	4.06	5.58
Muscle depth	0.16	0.57	1.13
Fat depth	-0.12	0.10	0.29
Terminal Sire Index	140	188	223
Maternal Index	138	171	199

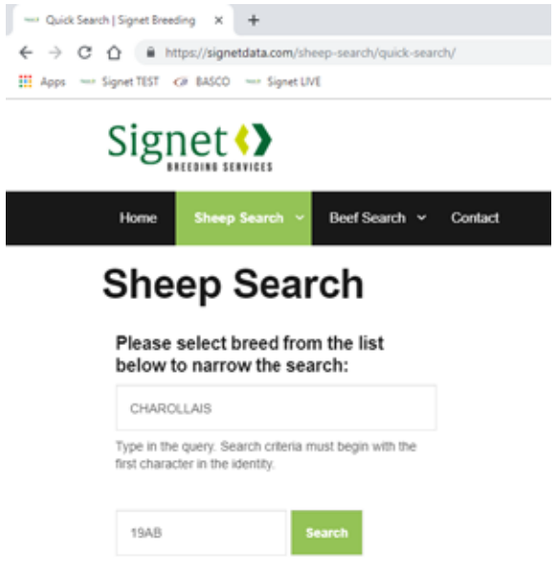
SUFFOLK

Estimated Breeding Values	Top 50%	Top 25%	Top 10%
Maternal ability	0.26	0.63	0.95
Litter size	0.02	0.05	0.08
8 week weight	0.52	1.22	1.84
Scan weight	1.34	3.04	4.67
Muscle depth	0.12	0.67	1.17
Fat depth	0.01	0.18	0.33
Terminal Sire Index	133	178	219
Maternal Index	132	165	196

Use the Signet Quick Search

Go to the new website
www.signetdata.com

You can also use this to check the parents of unrecorded rams – but do check the accuracy values

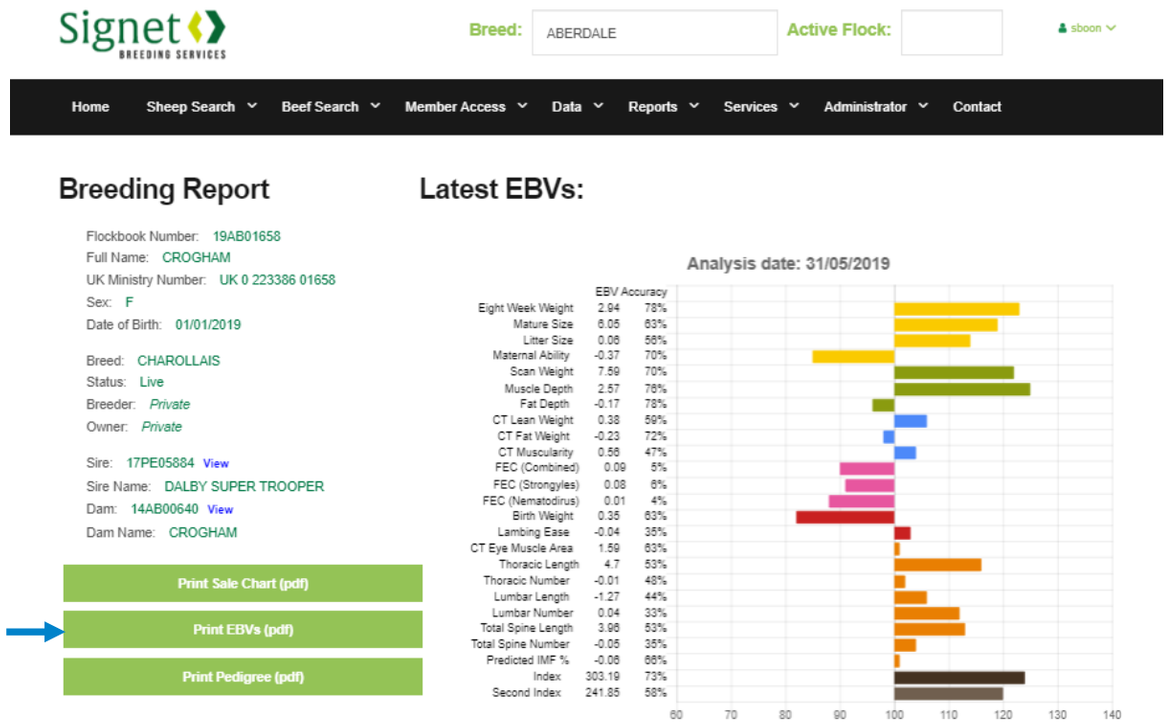


Use the Signet Quick Search

Total number of returned results: 64

Top 10 Results: See All | Export All to CSV

FLOCKBOOK NUMBER	UK MINISTRY TAG	FULL NAME	SEX	BIRTH DATE	INDEX	ACC	BREED	STATUS
19AB01658	UK 0 223386 01658	CROGHAM	F	01/01/2019	300.65	64%	CHAROLLAIS	Live
19AB01657	UK 0 223386 01657	CROGHAM	M	01/01/2019	302.02	64%	CHAROLLAIS	Live
19AB01656	UK 0 223386 01656	CROGHAM	M	01/01/2019	311.13	65%	CHAROLLAIS	Live
19AB01655	UK 0 223386 01655	CROGHAM	F	01/01/2019	278.81	65%	CHAROLLAIS	Live
19AB01654	UK 0 223386 01654	CROGHAM	F	01/01/2019	312.34	65%	CHAROLLAIS	Live
19AB01653	UK 0 223386 01653	CROGHAM	F	01/01/2019	312.34	65%	CHAROLLAIS	Live
19AB01651	UK 0 223386 01651	CROGHAM	M	01/01/2019	300.42	65%	CHAROLLAIS	Live
19AB01648	UK 0 223386 01648	CROGHAM	F	01/01/2019	322.33	64%	CHAROLLAIS	Live
19AB01646	UK 0 223386 01646	CROGHAM	M	01/01/2019	324.05	66%	CHAROLLAIS	Live
19AB01645	UK 0 223386 01645	CROGHAM	M	01/01/2019	273.01	66%	CHAROLLAIS	Live



Traits for Terminal Sires

Farm Breeding Objectives

- Liveweight
- Carcase weight
- Carcase conformation
- Carcase fat class
- Days to slaughter

RamCOMPARE

Recorded by Signet (To produce EBVs)

- Eight week weight
- Scan weight
- U/Sound Muscle depth
- U/Sound Fat depth
- CT Lean weight
- CT Fat weight
- CT Gigot shape

RamCOMPARE

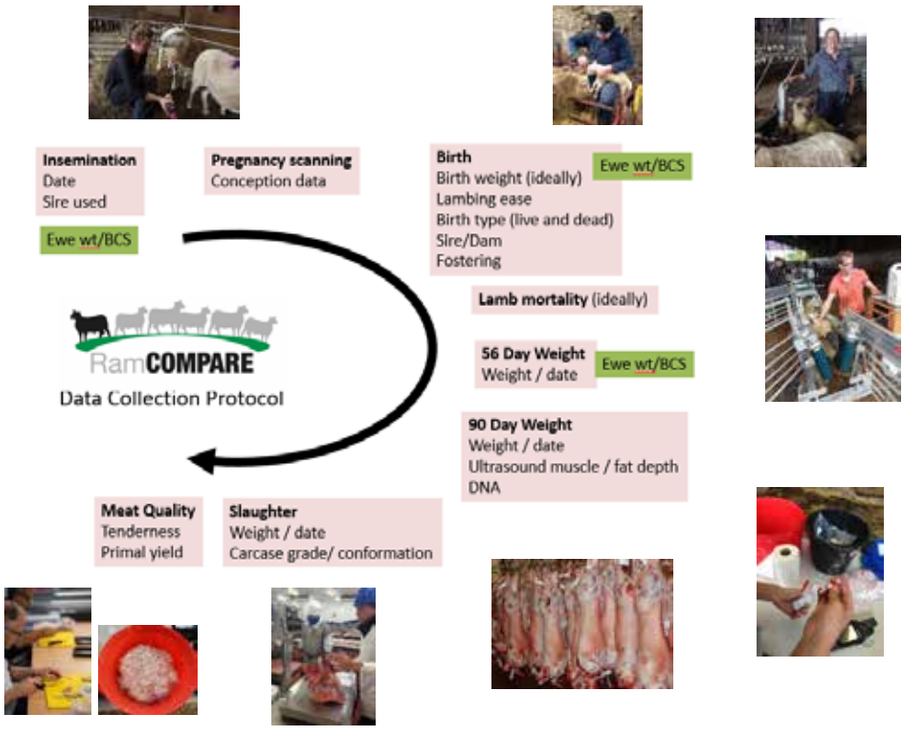
Why RamCompare?

Many aims...

- Ram comparison irrespective of breed
- Assess recorded rams under commercial conditions
- Assess traits of economic importance
  - New EBVs for days to slaughter, carcase muscle, carcase fat and carcase value

Background

- Partnership of 16 organisations
- Nine commercial flocks across GB
- Data collected from more 3,000 commercial lambs per year



Year Three Report

Top rams for:

- ❑Scan weight EBV
- ❑Muscle depth EBV
- ❑Fat depth EBV (fattest/leanest)
- ❑Carcase weight EBV
- ❑Carcase conformation EBV
- ❑Carcase fat class EBV (fattest/leanest)
- ❑Days to Slaughter EBV
- ❑Carcase merit index
- ❑Primal Weights
  - Front, Middle, Haunch
- ❑Tenderness
  - Shearforce

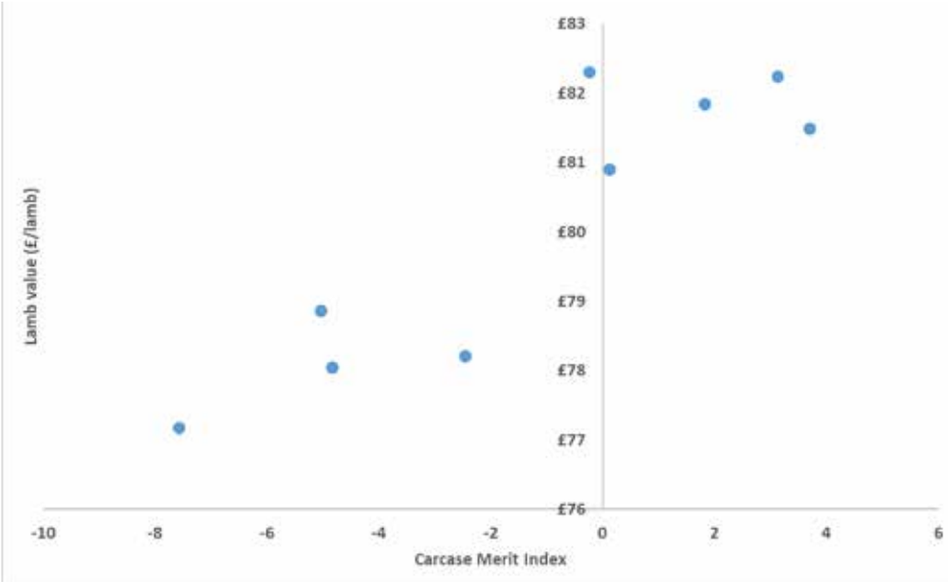
What have we learnt?

AHDB

Example:
The two top rams in 2018 for carcase traits

Name	Ram ID	Breed	Carcase Weight - EBV	Carcase Conformation - EBV	Carcase Fat Class - EBV	Days to Slaughter - EBV	Carcase Merit Index	*Index Accuracy*
ERRIGAL	PBH:17:01112	Suffolk	**0.71**	**-0.05**	**-0.27**	**0.01**	**3.70**	*72*
CASTLE KELLY AJAX	ILI1700914	Texel	**0.31**	**1.30**	**0.64**	**8.58**	**3.13**	*86*

AFBI Data: Carcase Merit Index of Sire vs Average 'Lamb Value'



Summary: Using breeding information

- Focus on your commercial flock breeding objectives
- Identify EBVs of importance
- Get a Breed Benchmark
- Source EBVs
  - Internet – EBV Search, Quick Search
  - Sale – Charts and Catalogue
- Ensure rams are fit for purpose

AHDB AGRI-FOOD & BIOSCIENCES INSTITUTE | Signet | Sheep Ireland | dunbia | afbi AGRI-FOOD & BIOSCIENCES INSTITUTE | AgriSearch | cafre | LMC Livestock & Meat Commission

Leading | Protecting | Enhancing

RamCompare NI: Towards more targeted and informed breeding programmes

Aurelie Aubry
9th July 2019

afbini.gov.uk

Department of Agriculture, Environment and Rural Affairs | The Research Challenge Fund | RamCOMPARE

Context

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- Earlier studies provided evidence of the positive effects of terminal sire EBVs on progeny performance
- Yet still low uptake of using recorded rams (only 40% of UK sheep producers)
- Low actual rate of genetic progress, despite potential benefits of £0.5m per year for NI sheep sector (see AbacusBio report)

- Little recent work for UK commercial sheep flocks

➡ Need for new work using current EBVs and modern breed types

- Several EBVs to choose from and two breeding evaluations systems for ROI and UK: is that confusing?

RamCompare NI: Objectives

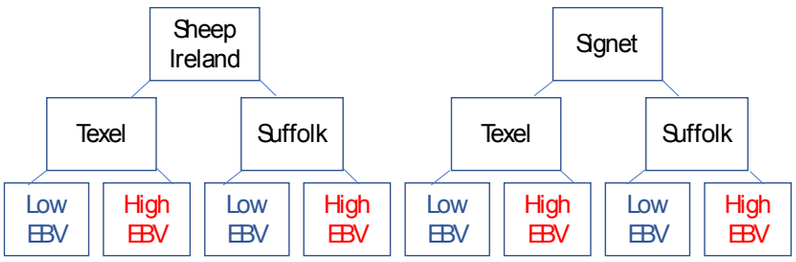
- Contribute to the activities of the RamCompare programme (UK wide), Signet and Sheep Ireland evaluation systems by
  - ✓monitoring the progeny from high and low EBV sires, from birth to slaughter
  - ✓Support the development of existing and new EBVs
- Evaluate the effect of sire EBV for muscle and finishing diet (subset of 80 lambs) on:
  - ✓Lamb performance
  - ✓Net feed efficiency
  - ✓Meat quality

Approach

- **How to achieve this?**
  - Use existing and novel techniques such as ultra sound scans, CT scans, feed boxes
- **What is the overall goal?**
  - Findings and discussions will improve our understanding and awareness of EBVs and support NI industry to improve the rate of genetic gain
  - New knowledge on novel traits (feed efficiency) will support the development of new EBVs

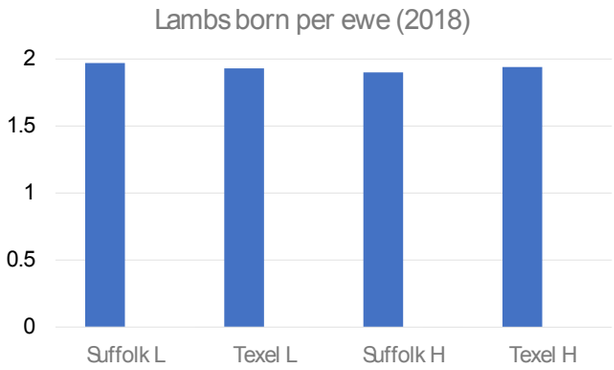
Breeding programme

- October 2017
  - 290 ewes AI'd (3rd and 12th Oct 2017), average of 61kg mating weight
  - 9 rams used



- October 2018
  - 374 ewes AI'd (5th and 11th Oct 2018)
  - 15 rams used

Lambing performance



All ewes and ram groups performed equally well at lambing

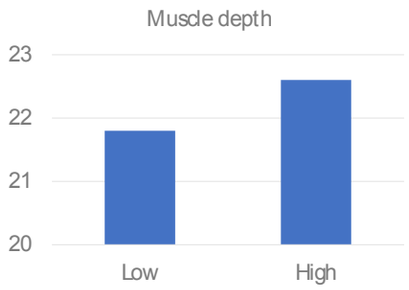
Lamb growth

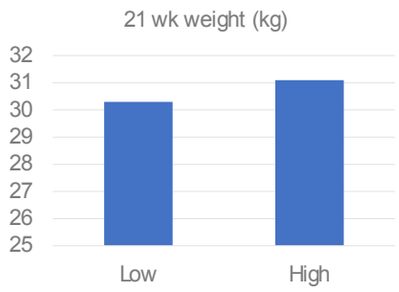
Daily live weight gains		Ram EBV group	
		Low	High
Birth to 8 week	(g/day)	326	313
8 week to weaning	(g/day)	180	203
Weaning to SL	(g/day)	152	145

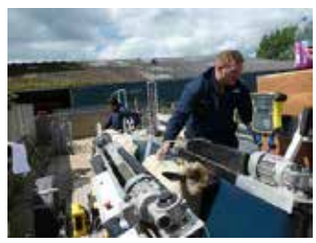
Days to slaughter		Low	High
Days to slaughter	(days)	206	194

- No clear patterns in terms of lamb growth, but:
- Only preliminary data (2019 data not analysed yet)
- Lambs from the high EBV group were slaughtered on average 12 days earlier

Ultra sound data (2018)

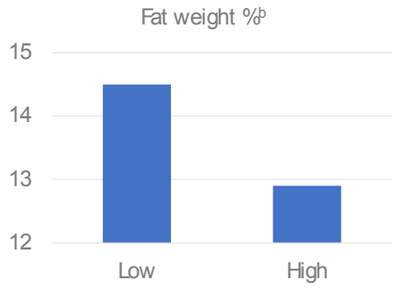






Benefit of using rams with high muscle EBV, without reducing lamb growth

CT scanning data (2018)



[a] (Muscle weight)/(fat weight) in the carcass

[b] % of total weight in the carcass

- As expected, higher muscle:fat ratio for lambs from High sire group (+25%)
- Further analyses will
  - ✓ compare Ultra sound and CT scanning data,
  - ✓ include other parameters such as Eye Muscle Area and intra muscular fat
  - ✓ assess differences among breeds

Slaughter data (2018)

	Low	High
Kill out %	46.7	46.6
Fat score	2.7	2.5

- On average, 30% of lambs achieved E and U grades, with little differences among groups
- Need to include 2019 data
- Further analyses will include saleable meat yields and meat quality

Feed conversion efficiency: why is it important?

- Feed conversion efficiency (FCE) is a term used to determine how efficiently livestock can convert their diet into a useful resource such as meat or milk
- Feed and forage represent approximately 60% of variable costs
- Increasing feed efficiency will:
  - ✓ Reduce feed and forage costs without impacting on animal performance
  - ✓ Enable to increase stocking rates
  - ✓ Increase output (kg lamb) per input (kg feed and grass)

- It is an ideal trait for use in genomic selection, because:
  - Difficult and expensive to measure
  - Moderate heritability (but more research required)

Feed efficiency: how to measure it?

$$\text{Feed (conversion) efficiency} = \frac{\text{Kg feed consumed}}{\text{Kg live weight gain}}$$

- Typically expressed as residual feed intake RFI:

$$\text{Residual Feed intake (RFI)} = \frac{\text{Actual feed intake}}{\text{Predicted feed intake}}$$

- Lambs with low RFI need to consume less feed to achieve a similar average daily gain
- It requires measuring individual feed intakes

Feed efficiency: how to measure it?

Automated feeding system
at AFBI Hillsborough

Forage feed boxes and concentrate feeders with animal weighing platforms

Selecting for feed efficiency: will it make a difference?

- Based on previous work and initial findings:

50 lambs

They look the same, yet:

50 more efficient lambs

Require 20% less feed to reach target Live weight gain → Less kg meal needed to finish them

OR

Grow faster for same feed intake → Less days needed to finish them

Take home messages

- Low uptake of using recorded rams, despite evidence of financial benefits
- RamCompare NI aims to improve our understanding and awareness of EBVs
- Preliminary data found higher muscle depth and muscle:fat ratio for high EBV (muscle)-sired lambs, without reducing lamb growth
- Don't forget about the ewe! Lamb performance is also correlated with genetic potential of its dam:
  - Use management tools to select your best ewe lambs
  - Also use EBVs for your maternal rams
- It is now easier to record individual feed intake and feed efficiency in sheep
- Selecting more efficient animals will decrease forage costs (eg by 20%), without reducing animal performance
- Still a way to go before obtaining EBVs for feed efficiency, but in the meantime, performance recording and benchmarking are crucial!

Thank you to all funders and partners

AGRI-FOOD & BIOSCIENCES INSTITUTE

Leading | Protecting | Enhancing

Better Returns from Better Health

Jason Barley
9th July 2019

afbini.gov.uk

Overview of the talk

- Need for flock health planning
- Context
- Basis
- Benefits

The Need

- Flock health planning: the bottom line
- Better returns / improved financial position
  - Better health
    - Improved production and lower losses
  - Better welfare
    - Welfare Quality and food chain safety
  - Better sheep
    - Improved health status and reduced wastage
  - Better shepherds and better sheep - vets
    - Improved learning and knowledge transfer
- With current NI flock of 956,000 breeding ewes, the estimated costs of ill health represents more than £13m to our sheep industry

Breeding for Performance Future Proofing Sheep Farming

Planning Basis

- Based around regular visits
  - Flock visits or in practice meetings
  - Key times in Shepherd's calendar
    - Weaning (1)
    - Flushing
    - Tupping
    - Pregnancy
    - Lambing
    - Lactation / rearing
    - Weaning (2)

Breeding for Performance Future Proofing Sheep Farming

Planning Basis

- Flock performance review
- Establish the *baseline* as far as possible
- Establish or improve recording systems
  - To allow analysis of effect of interventions
- Identify areas for intervention
  - Specific disease, disease control or management problems
- Place programme
- Monitor
  - Cost benefit
  - Benchmarking
- Adjust

Flock review (extract)

B) Production levels

Season (eg. 2015/2016)

		a) Ewes	b) Ewe lambs/ shearlings
1	Number of sheep tupped		
2	Number of rams used		
3	Total number of lambs expected from scanning		
4	Number of barren sheep		
5	Number of lambs born alive		
6	Number of lambs turned out		
7	Number of lambs reared (weaned)		
8	Number of lambs sold or retained for breeding		

Flock review (extract)

Production parameters calculated by AFBI using above table:

Parameter	Formula	Value	Indicative target
Ram: ewe ratio	1: a1/a2		
Ram: ewe lamb/shearling ratio	1: b1/b2		
Scanning % (ewes)	a3/a1 x 100		120% to 190%
Scanning % (ewe lambs/ shearlings)	b3/b1 x 100		120%
Barren % (ewes)	a4/a1 x 100		<2%
Barren % (ewe lambs/ shearlings)	b4/b1 x 100		
Actual lambing % (ewes)	a5/a3 x 100		>93%
Actual lambing % (ewe lambs /shearlings)	b5/b3 x 100		
Actual turnout % (ewes)	a6/a3 x 100		>87%
Rearing % (ewes)	a7/a1 x 100		
Lamb losses %	100-8/(a3+b3) x 100		

Components of the plan

- Preventive medicine programme
- Routine treatments
- Routine health monitoring programme
- Management
- Recording
- Benchmarking
- Financial analysis.
- Biosecurity

Management

- A full management component is optional
- Should include at least comment on:
  - Quarantine, bio-security, culling, scanning
  - Recording
    - Medicines use
    - Losses of ewes and lambs
    - Production data
- Can include comment on:
  - Nutrition, grazing management, breeding policy

Outcomes

- Interventions (targets) identified by flock audit
  - Examples from flocks in West Midlands, England, UK (ADAS) and Northern Ireland (AFBI)
    - Reduce lamb losses
    - Reduce lameness
    - Reduce anthelmintic use by applying SCOPS principles
    - Reduce mastitis
    - Improve grassland management
- Ensure records can be kept of the effect of the interventions
  - Sheep Records for Better Returns
    - AHDB Better Returns Programme
  - Trading accounts
    - Income and expenditure

Northern Ireland Case Study 1

- Breeding flock of 400 ewes and 50 ewe lambs
  - Year 1: 13 abortions due to EAE
  - Year 2: No EAE abortions following vaccination of replacements
- Partial budget shows:
  - New costs = vaccine = £ 300
  - New revenue (1.5 lambs per ewe x 13 x £ 78) = £ 1,521
- **Benefit £ 1, 221**

Northern Ireland Case Study 2

- Breeding flock 200 ewes
  - Year 1: poor young lamb viability with 10.6 % loss birth to weaning
  - Year 2: lamb loss birth to weaning 3.7 % (22 extra lambs)
- Partial budget shows
  - New costs = extra feed = £ 500
  - New revenue (extra 22 lambs x £ 65) = £ 1,430
- **Benefit £ 930**

Benefits

- Cost of vet involvement (ADAS / AFBI)
  - Cost to farmer of plan, monitoring and meetings estimated to be £500 in year one and thereafter £300 per year
- Benefit
  - Will vary from flock to flock
  - Is the main focus of adjustment
    - Depends on initial standards
    - Depends on success in increasing output
    - Depends on income from sales of output

Take Home Messages

- Plans can be successfully developed and implemented
- Plan needs to be **flexible**, yet **targeted** and **realistic** (prioritise areas)
- Be comprehensive: drugs cannot fix everything.
- Record performance data (including animal losses)
  - ✓ Benchmark !
- It will work, so let's talk about it!

Flock Efficiency
and
Integrating Technology

Main concerns

- Sheep do not pay
  - Poor return
  - Poor lamb price
- There is too much work involved

Profitable sheep production

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- Physical performance significantly affects profitability
- Performance is affected by
  - Breeding potential
  - Flock management
- We need to know how we have performed!

Every farm is different

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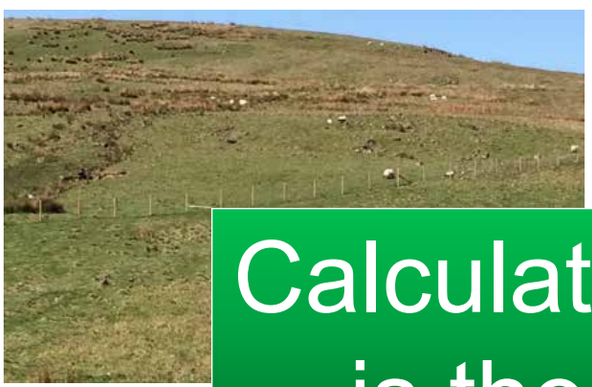

Calculating profit is the same

Profitable sheep production

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- Outputs – Price received per/kg produced
- V's
- Inputs – cost of production

Profitable sheep production

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- The main drivers of a profitable sheep system are
  - Lamb numbers
  - Efficient utilisation of resources - **mainly grass**
  - Reduced inputs

Performance = Profit

- Number of lambs
- Lamb growth
- Ewe Longevity
- Carcase quality
- Grassland Management
- Genetics
  - "Identify the difference"
- Attention to detail

Performance is affected by Breeding potential Flock management

Benchmarking –
Where are you? Where would you like to be?

Sheep Profitability

Lamb numbers sold per ewe has the biggest effect on output e.g.

1.5 lambs sold at £80 each = £120 per ewe
1.6 lambs sold at £80 each = £128 per ewe
1.7 lambs sold at £80 each = £136 per ewe

= £'s

How do we manage performance

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- Information
- The technology
- Making it work for you

Benefits of recording

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

Electronic Identification

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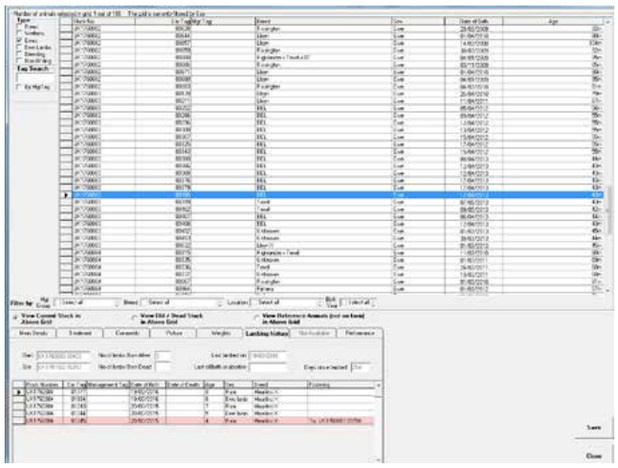
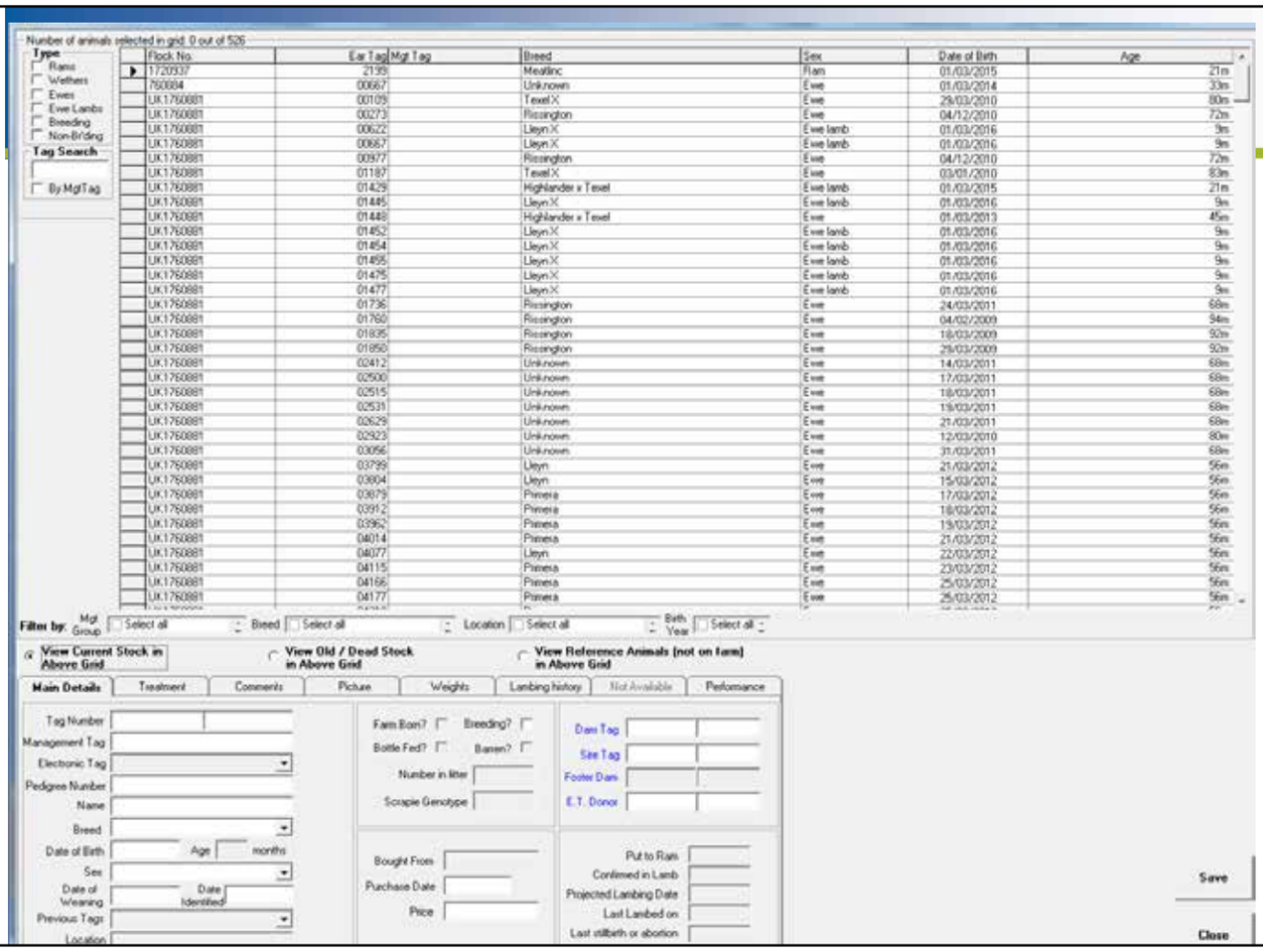
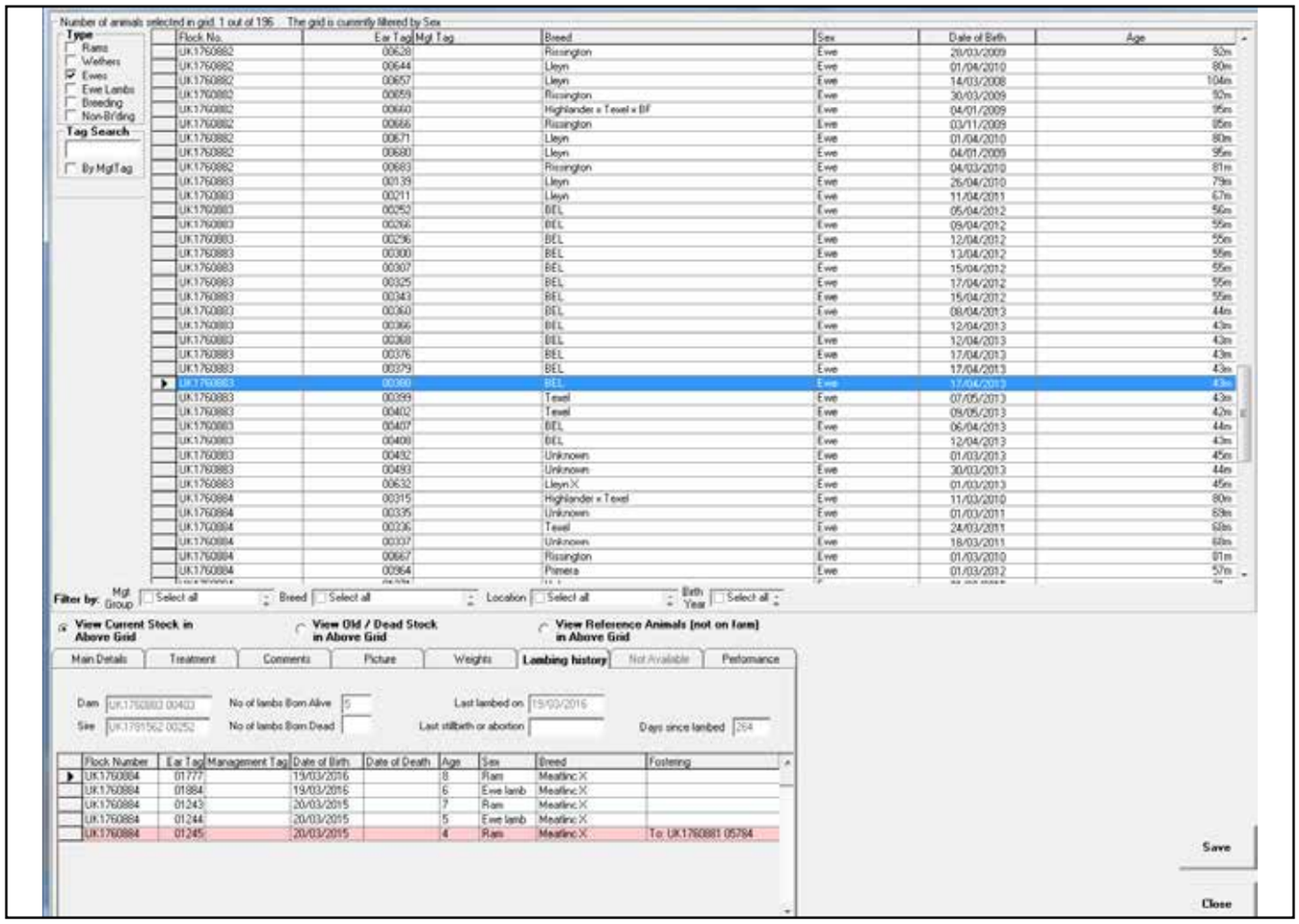
- STATUTORY
- MANAGEMENT
- Data must be
  - Collected, processed, stored, shared,…
- Integrated into management decisions







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Daily Live Weight Gain filtered by Breed (Meatlinc X) and Birth Year (2016)

Owner: Abbey
Holding Number: Abbey
Holding Name: Abbey
Date Printed: 08/12/2016

Tag Number	Management Tag	Sex	Start Date	End Date	Start Wgt	End Wgt	DLWG
UK1760884 01856		Ewe lamb	31/03/2016	27/09/2016	4.50	9.00	0.025
UK1760884 01857		Ram	31/03/2016	03/10/2016	3.00	46.00	0.231
UK1760884 01858		Ram	31/03/2016	27/09/2016	4.00	48.50	0.247
UK1760884 01859		Ewe lamb	31/03/2016	03/10/2016	3.00	42.00	0.209
UK1760884 01860		Ram	03/04/2016	11/05/2016	3.00	9.50	0.171
UK1760884 01861		Ewe lamb	03/04/2016	27/09/2016	4.00	49.50	0.257

Sire: Unknown **Breed: Unknown** **Purchased From: Unknown**

	1	2	3L	3H	4L	4H	Total
E		1	2				£226.55
Avg Price / Avg Wt		£73.60 / 23.1	£76.48 / 23.9				
U		7	168		31	4	£14,167.12
Avg Price / Avg Wt		£67.56 / 21.9	£67.67 / 22.4		£67.05 / 22.2	£61.83 / 23.4	
R		14	111		4	1	£8,359.38
Avg Price / Avg Wt		£63.64 / 20.6	£64.35 / 21.2		£65.50 / 21.7	£63.51 / 21.9	
O		1					
Avg Price / Avg Wt							
P							
Avg Price / Avg Wt							
						Total for Sire:	**£22,753.05**

What are my options

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- Wide range of options







Handheld Systems

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Electronic Weighing

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£800 - 2000

Fully integrated systems

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Performance recording using EID

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- Use of EID tags and related farm recording systems enables
  - Efficient data collection
  - Reliable data collection

- Software to manage and analyse data
- Integrating EID is vitally important to the supply chain
  - Market requirements
  - Management decisions
  - Animal health implications

What are my options

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- Wide range of options
- You need to select what is most suitable for you system
- Success is linked to application not the price of the system

Summary

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- Information is evaluable
- Technology can enable more efficient data collection
- You can make better decisions

Notes

SUPPORTING SUSTAINABLE SHEEP PRODUCTION IN NORTHERN IRELAND

AgriSearch NI
Driving Excellence & Innovation

SUMMARY

- AgriSearch is an independent organisation whose purpose is to help make the Northern Ireland ruminant livestock sector become more competitive, profitable and sustainable.
- The value of the outputs of AgriSearch to farmers is many times greater than the levy investment
- A wide range of resources are available on our website www.agrisearch.org

What is AgriSearch

AgriSearch (The Northern Ireland Agricultural Research and Development Council) is an independent charity. It was formed in 1997 to help beef, sheep and dairy farmers become directly involved with production-oriented research and development and to ensure a continuation of government funding for such research. Our mission is to drive profitability and sustainability of the ruminant livestock sector. We do this through funding and commissioning research directly applicable on farms to farmers. AgriSearch welcomes innovative ideas and identified needs for research that may solve problems. Farmers are involved throughout our decision-making processes. We are an independent organisation (separate from AFBI) governed by a Board of Trustees (who are directors of a Company Limited by Guarantee and registered with the Charities Commission for Northern Ireland).

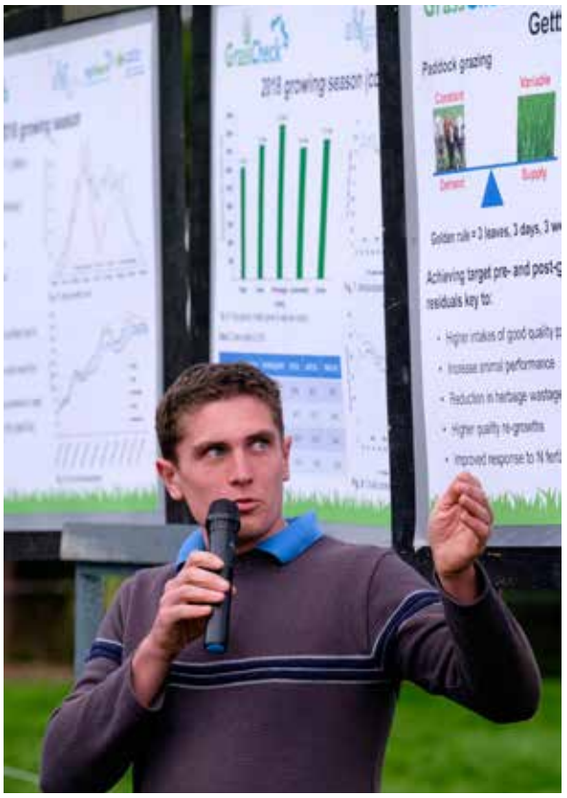
The value of the levy investment

Northern Ireland's sheep industry needs to continuously improve technical efficiency to remain in business. At AgriSearch, we aim to provide the current and next generation of sheep farmers with the research-based knowledge they will need to build efficient, sustainable and profitable farming businesses which can help them compete in a global marketplace. To achieve this AgriSearch works with research organisations and industry bodies across Europe bringing innovation to Northern Ireland.

A review of AgriSearch co-funded research carried out in 2006 showed a 22:1 return on farmers levy, assuming adoption rates of between 5 and 10% for the various recommendations arising from the research.

With levy investments of around £400,000 per year over the past 20 years we have been able to play a key role in large scale research projects co-funded by more than £48 million of contributions from industry organisations, government and international bodies. This collaboration has brought considerable benefit to Northern Ireland farmers. Much of the 'cutting edge', independent research is generated within Northern Ireland at AFBI Hillsborough and on farms of co-researchers.

In addition to the potential gains to be made from applying the findings of research conducted under Northern Ireland conditions, one direct financial payback of the data collected under the "GrassCheck" programme was that Northern Ireland was able to obtain £4.57M in 2002 for 'weather aid' payment. This source of data was also used to provide a business case for the 2013 fodder transport scheme, which brought aid of £1M to the qualifying farms in Northern Ireland. In 2018 GrassCheck weather data was used as evidence by DAERA to make a case to the European Commission for an uplift in the rate of advance payment of BPS from 50% to 70%. The 2002 aid alone is equivalent to more than 10 years of AgriSearch levy income.



Pioneering on-farm research

Together with researchers at AFBI, AgriSearch has pioneered the use of on-farm research. Key benefits for both farmers and scientists include:

- Much greater numbers of animals, leading to more robust data
- Range of genetics, environments and farm management systems
- First-hand farmer experience
- These on-farm research projects often involve industry partners who bring knowledge and experience to the project as well as other in-kind contributions of products and services.

How is it funded?

AgriSearch is funded by means of a voluntary levy collected by dairy and red meat processors. The levy rate for beef is 4 pence per head of cattle (of which 10 pence is passed on to AHWNI to assist with the BVD eradication programme).

Who makes the decision on how the sheep levy money is spent?

Research projects are recommended for funding by Sectoral Advisory Committees (Dairy, Beef and Sheep). These are composed mainly of farmers along with a processing representative and an independent scientific expert. Stewardship of AgriSearch resides with the Board of Trustees. The guiding principles behind all AgriSearch projects are that they will provide research which will be of practical benefit to farmers and provide them with tools to help reduce costs, increase performance, drive innovation and improve welfare and environmental sustainability.

Why should farmers fund research, should the government not fund it all?

Government still does fund a considerable amount of research. Understandably this tends to focus on evidence needs for guidance of policy makers. However, by the industry being willing to commit some contribution of money and by making the case for particular projects, we are able to 'lever' government funding from the available budget to commission research. In the financial year 2017/18, for every £1 committed to research projects by AgriSearch there was a further £20 obtained from other sources.

There have been very significant changes to research funding mechanisms over the past seven years. Across all funding streams there is a requirement for active industry involvement and leadership. Collaborative projects are becoming more common and this trend is likely to continue.

In circumstances where AgriSearch's levy income on its own will not go far in payment for research, the real value of AgriSearch is the industry engagement it can bring and represent in a project, particularly the ability and experience in facilitating on-farm research.

Conclusion

AgriSearch's primary focus is to provide a return to Northern Ireland's dairy, beef and sheep farmers for the levy investment they put in. Reviews have estimated that return to be between 20 to 1 and 40 to 1 (based on 5 to 10% adoption rates).

AgriSearch provides farmers with the latest research and knowledge to help them improve technical efficiency.

AgriSearch provides a means for farmers to have a voice and role in research projects, the findings of many of which will inform government policy in the future as well as providing farmers with the tools and information needed to compete in an ever-changing world.

Get the most out of your levy by engaging with AgriSearch, bring forward questions / research needs and use the information available on the website www.agrisearch.org and following our social media channels.

CURRENT SHEEP RESEARCH PROJECTS:

- RamCompare
- Lamb from Grass
- Rumen fluke in cattle and sheep: measuring impacts and improving diagnosis
- Strategic Antimicrobial Use in Dairy, Beef and Lamb Production (STAMP)
- Food Futures: Smart Sustainability Tool
- Evaluation of ammonia emissions from livestock enterprises
- SUPER-G: Developing sustainable permanent grassland systems and policies

AFBI, AgriSearch, CAFRE and LMC would like to thank the staff of Draperstown Livestock Market for hosting this event