

Advances in Sheep Breeding

NORTHERN FARMING CONFERENCE 2015

Dewi Jones

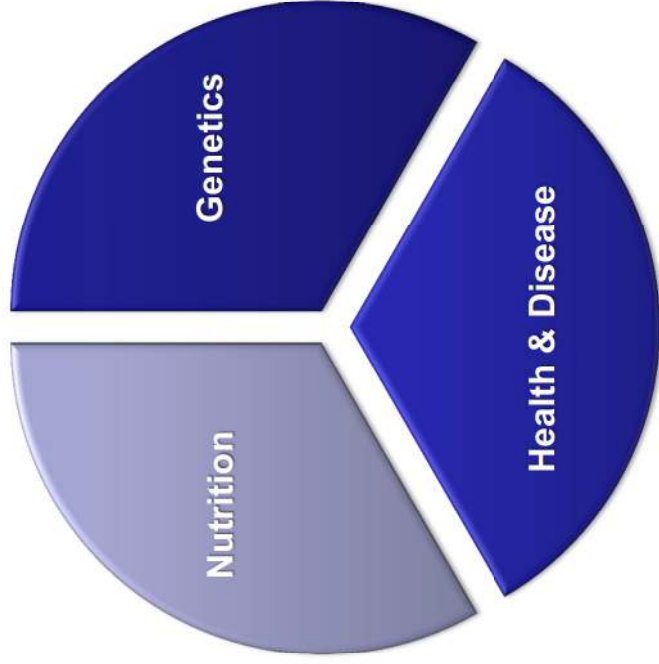


What does the future look like?

- ✓ Responsible, efficient production
- ✓ Balancing economic, social and environmental balls
- ✓ Business focus is essential (the dreaded business plan!)
- ✓ Informed decisions through measurements
- ✓ Greater efficiency
- ✓ More integration and partnership



Focus on the things that you can control



What is wrong with our current system?



Buy rams from large breeding flocks under forage based commercial conditions...



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Cut out unnecessary cosmetic costs



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Breeding Objectives

- ✓ Measure traits that have commercial relevance and value to your marketplace
- ✓ Identify where the value will be realised
- ✓ Select on those traits and measure progress
- ✓ Selective culling
- ✓ Establish a feedback mechanism



What do we want from a breeding ewe...

- ✓ To produce lambs consistently, with minimal cost
- ✓ To lamb itself without an army of staff
- ✓ To mother and look after those lambs through to weaning
- ✓ To recover and maintain herself without feed and fuss
- ✓ To keep doing it until she's an OAP



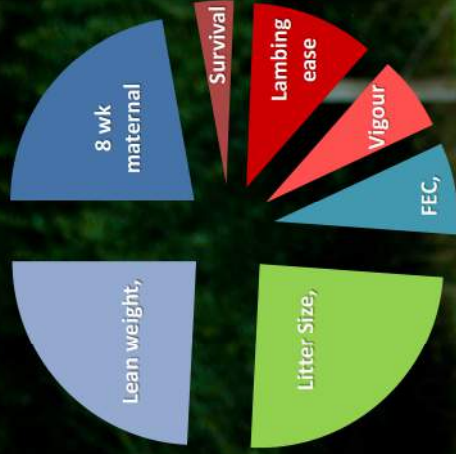
What do we want from a Meat Sire...

- ✓ Easy lambing
- ✓ Lambs with vigour to survive and suckle
- ✓ Fast, efficient growth rate from forage
- ✓ Top carcass quality: yield and composition
- ✓ MEAT EATING QUALITY



Multi-trait selection (Pure & Cross breeding)



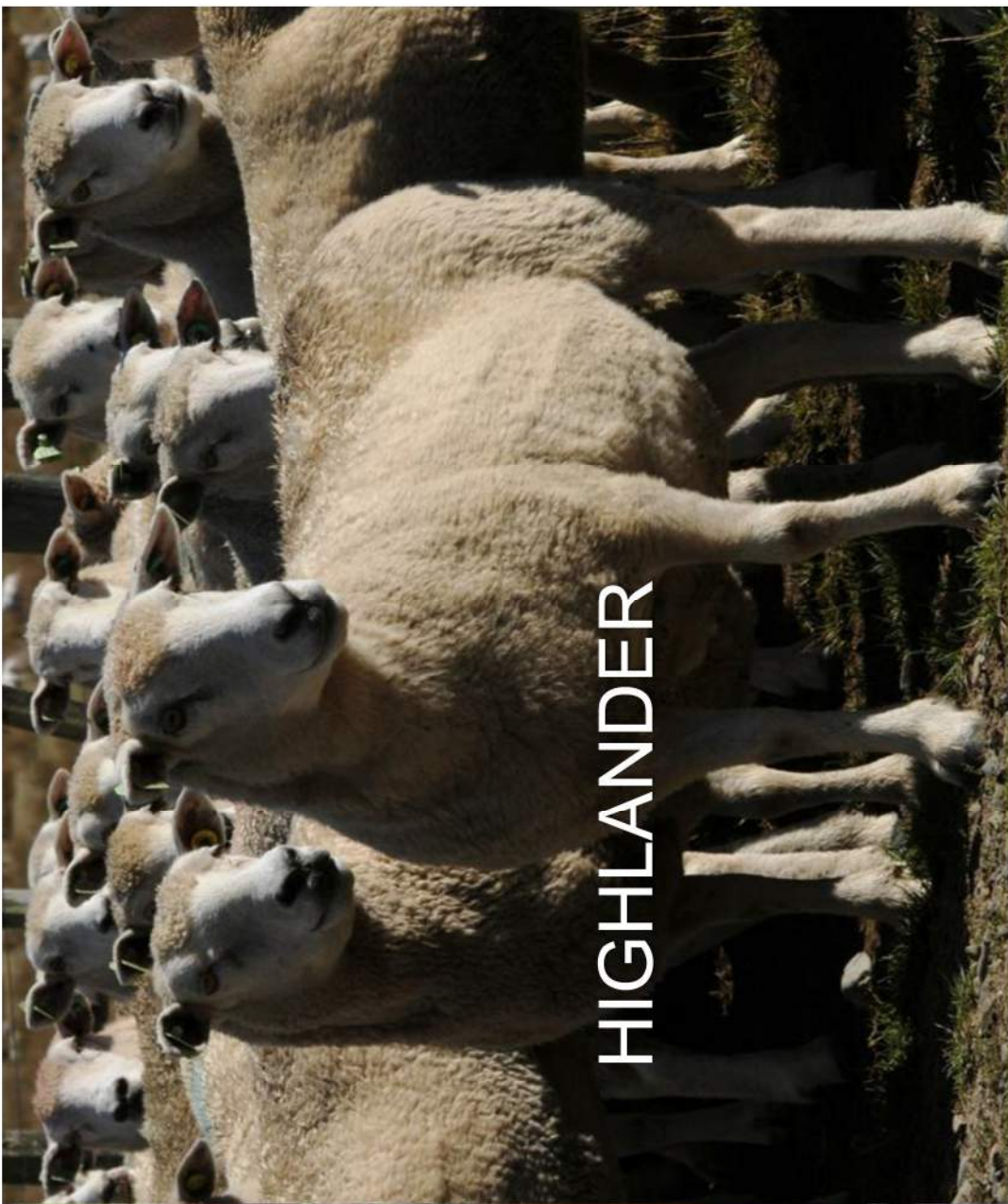


ABERFIELD...

Multi-trait maternal selection, selected to lamb outdoors and to perform off a forage based system

Choosing an Aberfield ram





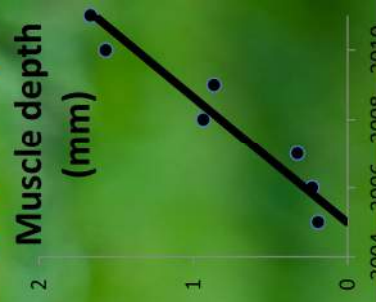
HIGHLANDER



ABERMAX..

Lambing ease and vigour
High meat yield

Fast growth off forage
Good meat eating quality



PRIMERA



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Latest tools & technology



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DNA Shepherding



Recording important traits: foot and dag scoring



CT Scanning



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Genomic selection



Image: Sheep CRC



'Ovine SNP 50'
DNA analysis research chip
from Illumina



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DNA



**Maternal
traits**



**Lambing
traits**



**Health
traits**



**Growth
traits**



**Functional
traits**



**Eating
quality**



**CT
traits**

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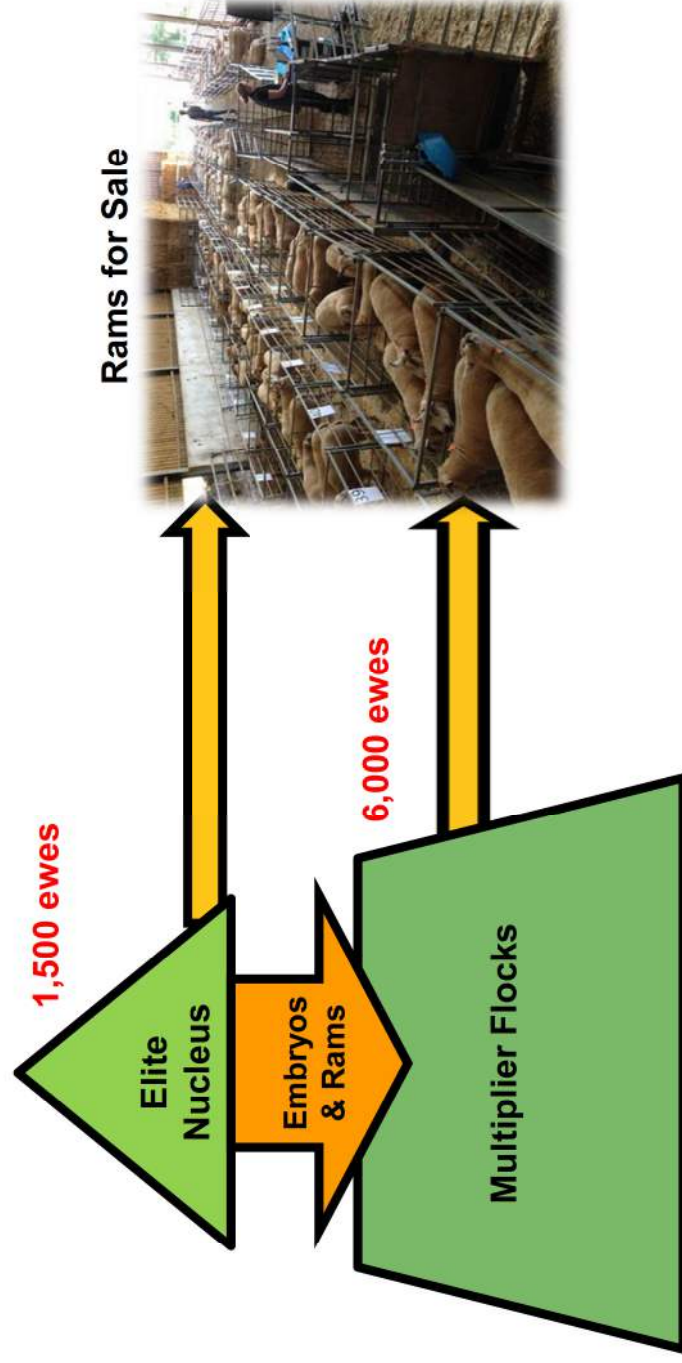
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Integration & Partnership



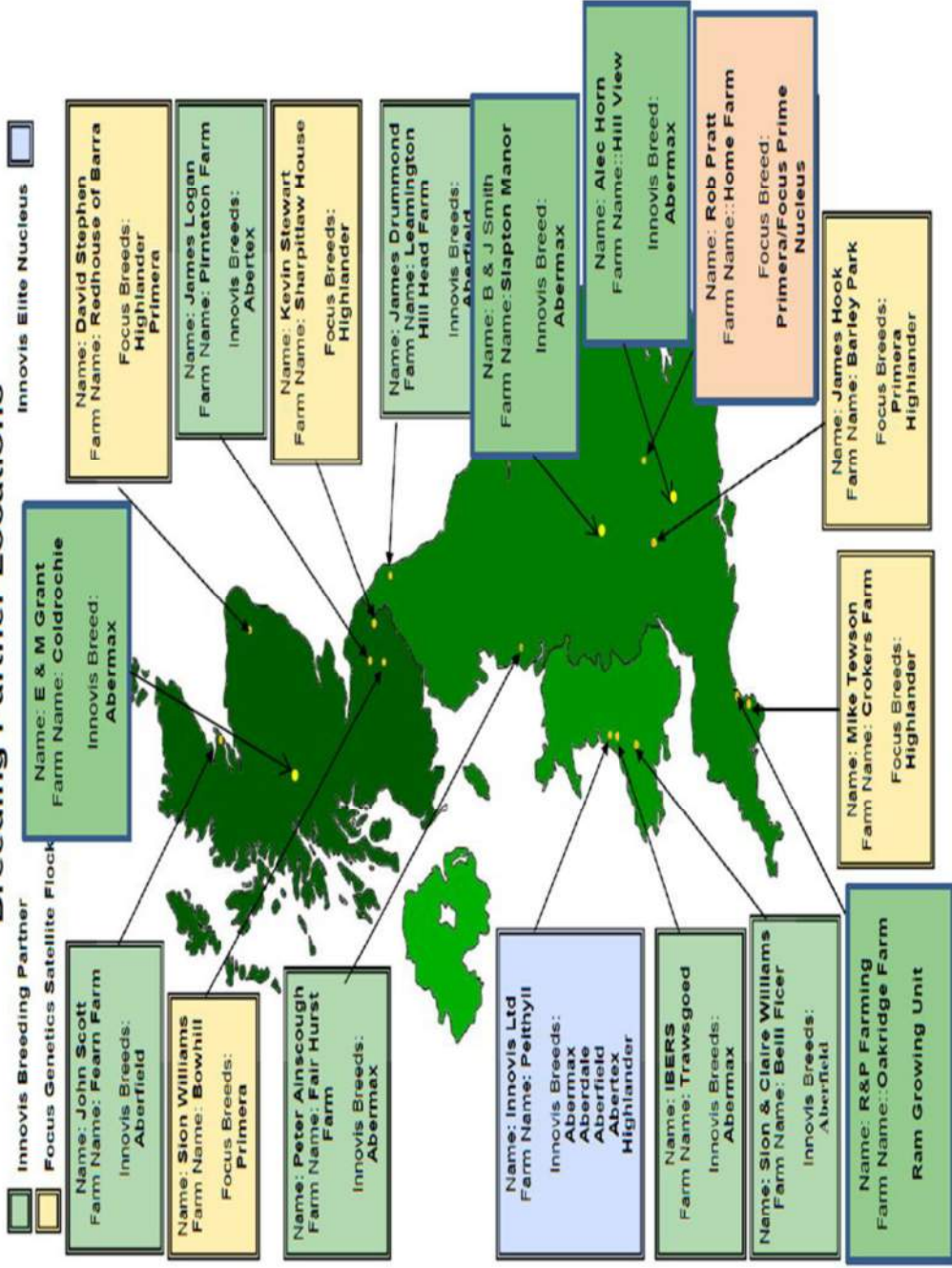
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Breeding Partner Locations



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On-farm Ram Sales

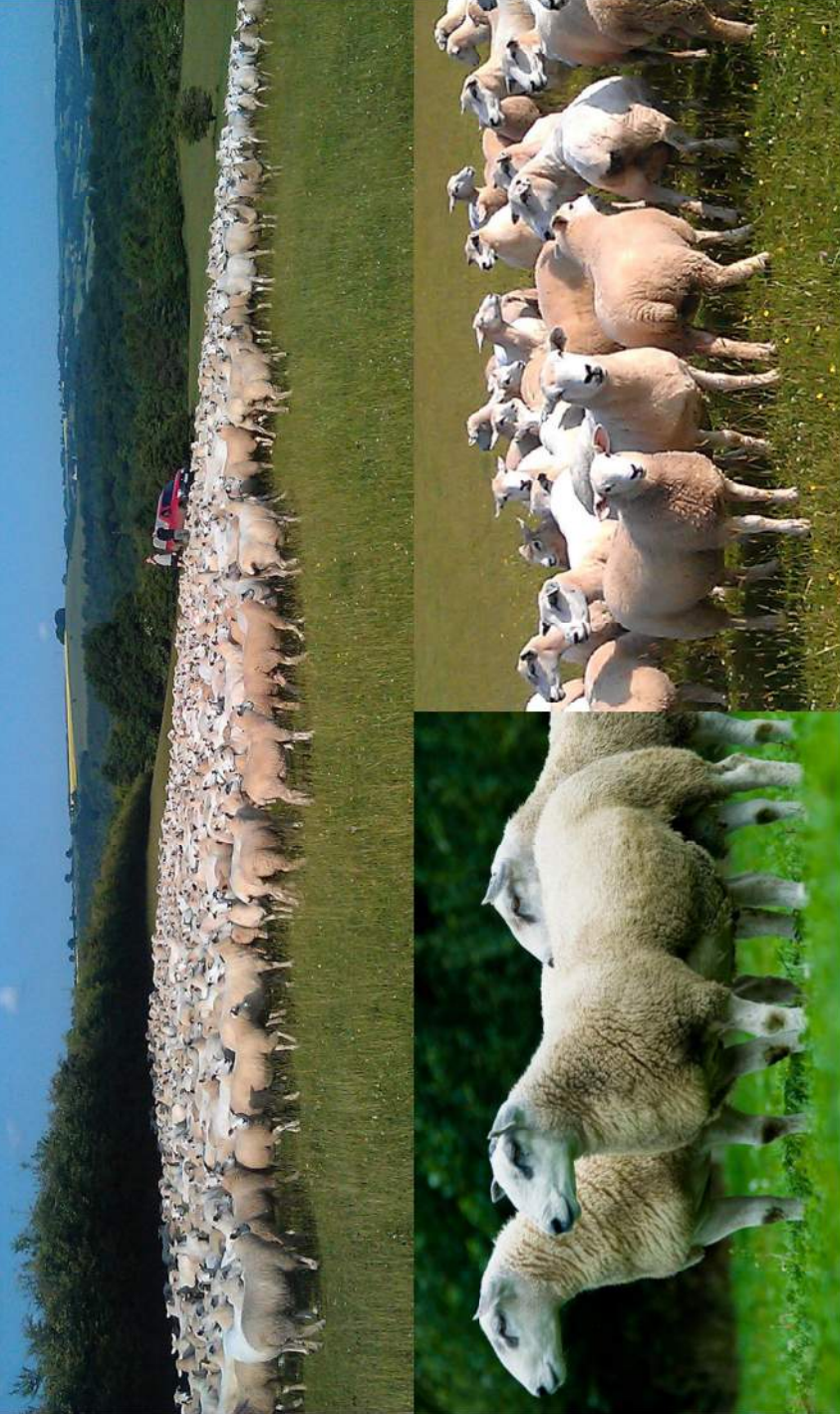


On-line ordering
launched in 2015



Integrated production of crossbred ewes

Geraint Powell, Cheltenham



Customer's pre order Aberfield ewe lambs which are sold over one day in late July/early August. All ewe lambs are weighed and sold in weight categories.

New sheep breeding strategy

Farming a sustainable sheep enterprise for Blackheath Estate's farm manager, Siôn Williams means operating at a profit without compromising on the quality of the products supplied to his customers. One of the strategies adopted is to focus on maximising output and delivering to meet with market demand.

The 4,500 ewe Shetland-based enterprise has introduced a combination of New Zealand and Innovis terminal sires and dam lines which are enabling it to not only deliver to target - a 10 per cent return on capital but also demonstrate a profit without Single Farm Payments.

"The flock is continually measured and monitored at every turn to ensure it keeps on track. Bowhill's hill sheep yielded a net margin of £5.05 a head against the QMS average loss of £18.76, including full labour in 2012 - the latest full financial year, while the lowland flock produced a net margin of £3.80 compared to an average loss of 7.9p."

"This is a profit driven unit and we are continually listening, learning and considering how we can improve the efficiency of the flock to achieve that sustainability goal and in turn, the bottom line," Siôn explains.

"Bowhill had farmed traditional hill and lowland ewes, however we found there were new and emerging genetics which had the potential to deliver more."

"Furthermore, we are not interested in headline grabbing ram prices or flashy faced ewes."

"We want to produce volumes of lambs which will finish to target weight off a grass based



Bowhill Fact File

- 8,000 breeding ewes
- 4,500 breeding ewes - 3,300 Blackface ewes for replacement purposes, 1,300 lowland ewes, all progeny finished
- 440 beef cows - store cattle sold as yearlings
- 120 acre battery for home feed and straw
- 100 acre K&L for finishing lambs and overwintering cattle
- 45 Primera nucleus ewes

system. We know what our buyer wants and we are focused on growing lambs to meeting its specification."

Development group

The estate supplies its entire crop through Dublin to Sainbury's and is part of its development group. "Part of the enterprise's success is down to that close working relationship, as well as good attention to detail by the farm's nine staff. We know what the abattoir wants and are trying to grow lambs to hit that specification."

After more than five years of farm trials, Mr Williams has introduced a mix of New Zealand Highlander dam line and Primera terminal sire, together with Innovis genetics to the traditional Blackface, Mule and Texel.

Evaluation included every aspect of lamb performance from gate to plate. "Our initial research at Bowhill found a difference in margin of £28 per ewe between the traditional and newcomers and it wasn't just down to lamb price," he explains.

"Whilst 83 per cent of the Texel Mule lambs were hitting target specification, there simply wasn't enough of them. Moving to the Highland crosses, we found the numbers and then we have introduced Innovis' damlines - the Highlander, Aberdale and Aberfield for improved carcass quality for all the weaner lambs and more lamb numbers out of the low ground replacements."

Continental terminal rams have been replaced by Primera, which we find are easier lambing and the progeny grow faster on grass."

"Last season, the Primera sired lambs finished 32 days quicker compared to traditional breeds giving additional output of £13 per ewe to the ram, excluding the grass saving - and with the Aberdale mother you get good lambing percentages including a lamb that hits market specification," he says.

The low ground flock, which includes Aberdale crosses averaged 141 per cent lambs reared per ewe, with the Blackface hill flock at 117 per cent. On the low ground its lamb output is 100 per cent.

The Continental cross lambs, finished at 183 days, compared with 151 days for the Primera crosses, while the hill lambs finished at 281 days for the Blackface down to 246 days for the Aberdale cross lambs." See table 1.

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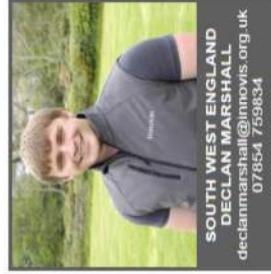
Communication and feedback



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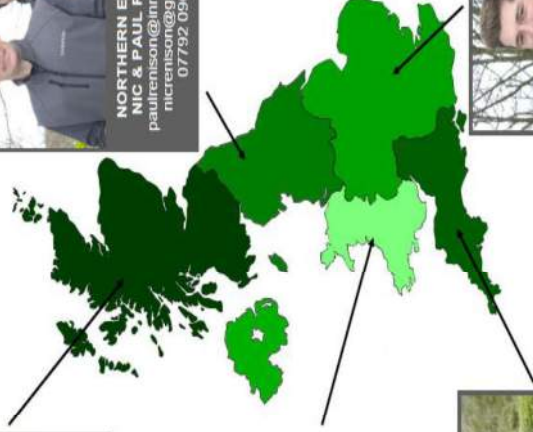
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Sales Technicians

Primera nucleus flock

Siôn Williams has further added value to the Bowhill flock by introducing a Primera nucleus flock. The current flock sits at 45 breeding ewes, which rams are sold to customers direct from farm through Innovis and used to sire the terminal lambs in the majority of the low ground flock.

"The system allows the business to monitor on farm ram performance and also that of their progeny to ensure that the latest genetics are going to make a difference and improve the product. All the lambs born into the flock are also weighed and monitored for growth at weaning and as they mature to shearing."

"These Primera rams are used over ewe from Bowhill's commercial flock, the lambs are also tagged at birth and traced in the same way through to kill. We monitor kill spec, kill out, and deadweight including an evaluation of days on farm and daily weight gains."

Table 1: Texel cross v Primera cross jinamer performance

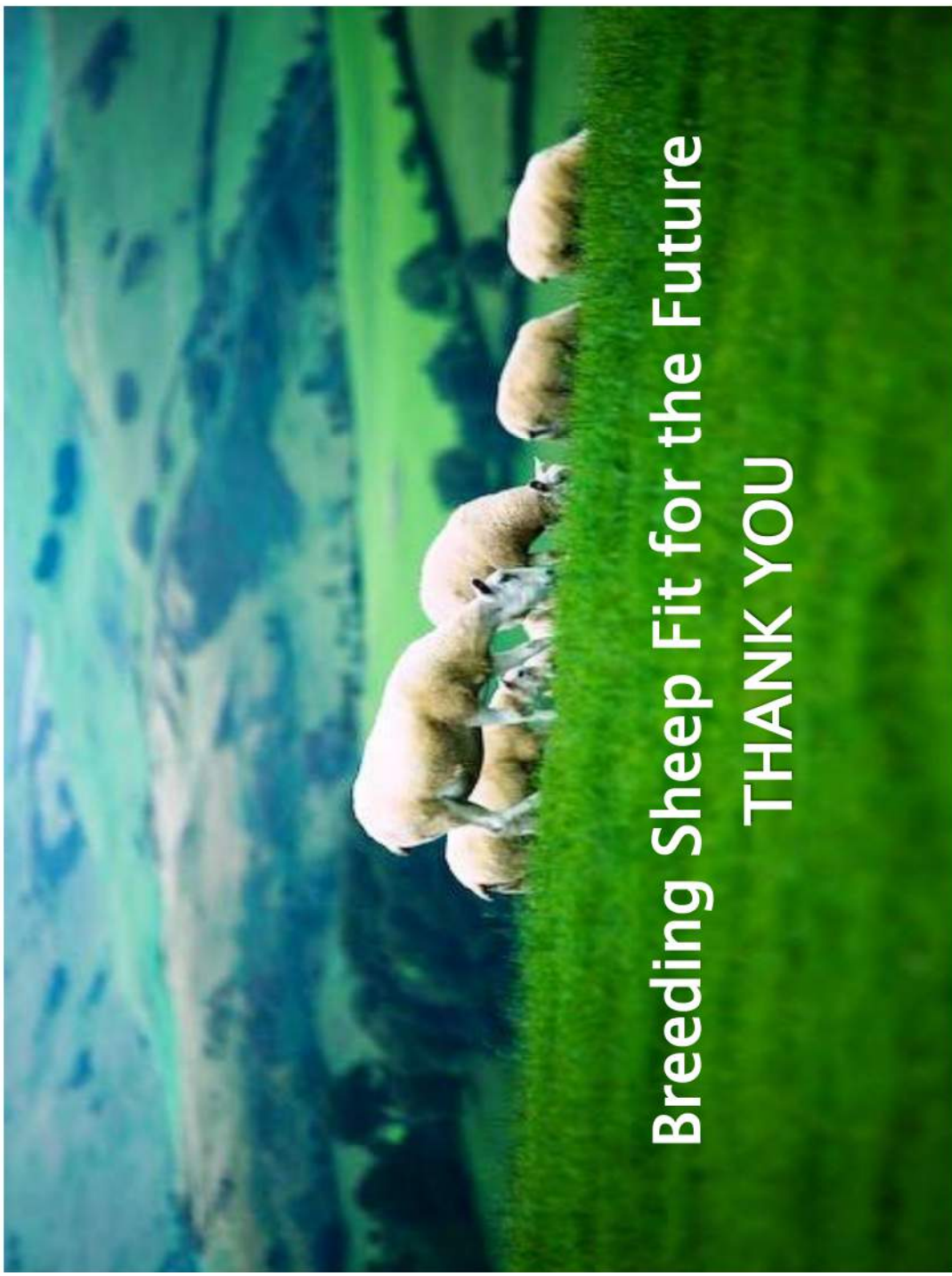
	Texel cross	Primera cross
Number sold	88	96
Sale average (£/lamb)	76.17	77.96
% within kill spec	94.20	85.44
Weight (kg)	19.00	18.80
Days on farm	183	151
Lamb crop value (£)	6,702.96	7,483.20
Over 1,300 ewe flock (£)	145,293.80	182,136.00

Source: Blackheath Estate

"Whilst we are delighted with the lamb performance results, we were interested to see the further improvement in the carcass and carcass weight, as well as the carcass quality, by using a traditional set stocking system for paddock grazing featuring red clover rich swards and upping the currently stocking rate from five to eight ewes plus lambs per acre. Trial findings look favourable and we believe paddock grazing could further enhance the sheep unit's sustainability."



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THANK YOU