Performance recording the pedigree flock

CYNLLUN HYRDDOD MYNYDD
HILL RAM SCHEME

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About the project

This publication was produced as part of the Red Meat Development Programme (RMDP).

The RMDP encompasses three strategic projects: Stoc+, an animal health planning project; Hill Ram Scheme, a genetic improvement project; and Welsh Lamb Meat Quality Project, an eating quality project.

The aim of the programme is to ensure that Wales's red meat sector is as resilient, sustainable and profitable as possible in an increasingly competitive global marketplace.

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Introduction

Achievements through selective breeding

Welsh ram breeding flocks have been involved in weight recording programmes for over 50 years, with some of the oldest weight records held on Signet's database belonging to a group of Welsh Mountain lambs born in April 1970.

Breeders were interested in flock recording back then for the same reasons as those of today. Breeders need an unbiased way to find those rams and ewes in the flock with the best genetic potential.

It is very difficult to identify the best sheep by eye alone, particularly for maternal traits. For this reason more accurate approaches have been developed that involve the analysis of data collected on individual animals, to get a full picture of the flock's performance and that of the individual sheep within it.

In the last 50 years massive advances in flock identification, record keeping, ultrasound scanning, handling systems, computing power and more recently genomics have transformed our ability to use this basic information to identify and breed from sheep with superior genetics.

The value of genetic improvement to the UK sheep industry already exceeds £10.7 million per annum (Abacus Review, 2015) and at the farm gate the value of lambs sired by high-index sires can easily exceed £3–£4 per lamb – with even greater gains in maternal breeds where genetic gains are expressed year after year.

This booklet explains how sheep breeders can get involved with performance recording and take their flocks forward.

The benefit of recording sheep

Performance recording gives ram breeders and commercial ram buyers an objective way to assess the genetic potential of rams selected for breeding.

Performance records add value to the sheep enterprise in two ways.

1. Adding value to ram sales

There are two direct ways that performance records can add value to sales:

- Achieving a higher average sale value
- Selling more rams, with better clearance rates.

Performance records enable buyers to purchase rams with confidence, compare rams between flocks and buy rams better suited to their needs. Buyers are now seeking rams with records, so it pays to record.

2. Increasing flock productivity

Both the flocks that performance record and those flocks buying rams from them will benefit from any genetic improvement that is made. This both lifts flock productivity and enhances overall profitability.

Access to breeding values not only enables the retention of the best ram lambs for breeding; they are also an invaluable aid in the selection of ewe lamb replacements.

Rams with high breeding indexes will:

- Sire heavier lambs with better conformation, capable of being finished more quickly
- Generate productive ewes with excellent maternal performance.

A recorded ram can deliver over £600 added benefit to the flock during its working lifetime, which proves to be a highly cost-effective return on investment.

What's new in sheep recording?

Terminal sire genetic evaluations relaunched

In 2019, Signet relaunched the National Terminal Sire Evaluation, moving 12 numerically large breeds onto a monthly, mixed breed evaluation.

All of the existing Estimated Breeding Values (EBVs) were updated and a series of new breeding values were developed from CT scanning data; these included traits for spine length, vertebrae number and intramuscular fat.

Why use a multi-breed approach?

The multi-breed approach mirrors that used in sheep evaluations in New Zealand and Australia, where multi-breed analyses are routinely undertaken.

It enables data to be evaluated more frequently and for smaller breeds to benefit from knowledge gained in larger datasets.

A new genetic evaluation for hill breeds

Research completed as part of the Hill Ram Scheme has enabled a major review and relaunch of the recording services delivered to hill sheep producers.

In 2020 a new multi-breed approach will be launched, the "National Hill Sheep Breeding Evaluation". A series of enhancements have been made, including:

- Enhancing existing EBVs to make them more accurate and more commercially focused
- The development of new EBVs for maternal traits
- More regular analyses
- Rebased EBVs to aid interpretation.

The overall impact is a set of breeding values that are more relevant and easier to interpret by the commercial buyer of hill rams.

How do I get started?

Most breeds in the UK performance record through Signet Breeding Services, although Texel breeders can now record through their breed society.

For potential Signet clients it is simple to get started.

1. Fill in a Signet contract indicating the breed and size of your flock.
2. Using paper records or the output from on-farm software, provide Signet with details of the ewes and rams in your flock.
    - Provide a one or two generation pedigree where known.
3. Decide whether you would rather supply data on-line, via on-farm software or on paper. Paper-based services usually incur an extra charge.

Data submission

The main ways to supply data are either via:

- Spreadsheets – often generated from on-farm software
- Online at *www.signetdata.com*, where clients can enter in lambing records and weights.

Accurate and timely on-farm data collection is at the heart of any recording system.

These are the key times when data is needed.

1. At lambing, for each lamb provide details of sire, dam, sex and date of birth. Fostering information and records of dead lambs are important. The provision of birth weights and lambing ease scores is optional and clearly of less relevance on the hill than in terminal sire breeding programmes.
2. Weigh lambs between 6 and 12 weeks of age to get an adjusted 8-week weight. Remember to record if lambs have been in different management groups.
3. Contact a technician to scan lambs at around 20 weeks of age to weigh lambs and measure ultrasound muscle and fat depth.
    - Terminal sire breeds will often send lambs to be CT scanned around this time.
4. Prior to mating, weigh the shearling ewes that are going to the ram. Breeders can also supply weights and body condition score data for mature ewes if convenient and of interest to them.

Recording a large flock

Breeders with large flocks stand to gain the most by improving the genetic merit of their sheep, particularly when it comes to maternal characteristics which are nearly impossible to enhance without records.

Understandably, many breeders are daunted by the task of collecting and recording the data, but these tips may help.

1. **Create a breeding nucleus.** Breeders don't have to record their entire flock. The key to a successful nucleus is selecting the right foundation animals. Don't do it on the appearance of older ewes; you may overlook hard-working ewes in poorer condition. Better approaches might be to select ewes that reared twins the previous year or the heaviest ewe lambs within a group.
2. **Adjust lambing dates.** Enthusiasm for recording tends to drop over time. Consider lambing the nucleus flock earlier or later than the main flock and keep the lambing period tight.
3. **Recording birth weight and lambing ease is not essential.** This data is useful but not crucial, especially within hill breeding evaluations.
4. **Not every lamb needs to be ultrasound scanned.** If you are interested in maternal characteristics and growth, consider just scanning a sub-group of your lambs. If you don't scan all your lambs, please do weigh the rest at scanning time.
5. **Collect weight data around other tasks,** e.g. weaning or drenching.
6. **Use labour-saving devices that make recording easier.** These range from distance-readable tags to more complex EID, farm software and handling systems.
7. **Involve your shepherd.** Whoever is involved in collecting data needs to understand the importance of accurate data. Take time to explain why rams are selected using their EBVs and how it will improve flock performance.

Good to know

- Be aware of any grants available to buy equipment such as EID readers, farm software and handling systems
- Research the right system for you – how simple or complex a system do you need?
- Training on how to use technology on farm is available through many different avenues – software providers, Farming Connect, HCC Workshops and other breeders

A wealth of knowledge resides in breeders who have been recording for years and they are more than happy to provide advice and assistance to help make recording easier.

Flocks using DNA parentage

In recent years a number of flocks have opted to use "DNA parentage", using tissue samples taken from sheep within the flock, to determine the parentage of lambs.

The use of this "genomic information" can be a highly effective way to accurately assign parentage, without the need and cost associated with extra labour/housing at lambing time – or indeed direct contact with the ewe. This approach also enables breeders to mob mate the flock, thus reducing the risk associated with single sire mating/ram infertility.

When mob mating, care needs to be taken to match suitable individuals together, taking into account the genetic attributes and breed type that you wish to combine in their offspring.

Greater thought is also required to avoid increases in inbreeding when flocks are mob mated. Signet can provide breeders with free access to inbreeding software to make these decisions easier.

Tips for success:

1. In large flocks, create a nucleus of elite ewes – those from whom male and female replacements are most likely to be kept.
2. Get all of these selected ewes and the stock rams they are mated to tissue sampled in advance of lambing.
3. Record which rams were run with a given group of ewes.
4. Avoid running closely related rams together with a mob of ewes, such as full brothers – as this may make it harder to assign paternity to the correct sire.
5. It is still important that a date of birth is recorded. Approaches to recording dates of birth include:
    - Age the foetus at pregnancy scanning
    - Drift lamb ewes, batching them together based on the date they lambed
    - Record lambing dates using distance readable tags/numbers sprayed onto the side of ewes.

An investment in genomics

Using DNA parentage and genomic technology is a significant investment for any business and needs to be considered carefully. This investment has to be returned to the breeder through an increase in flock performance, ram sale revenue or a saving to the enterprise, for example in the labour used at lambing time.

A significant outlay is required in the first year, with both parents and lambs needing to be genotyped. In successive years the overall costs are lower – with only the lamb crop needing to be genotyped. Breeders should bear in mind this is a rapidly changing area of technology; genotyping prices have reduced considerably over the last decade, while at the same time the quality and density of genotypes have increased. For many ram breeders, these developments are starting to bring this once expensive and unaffordable technology within reach.

Extra advantages of genomic information

Longer term, the ability to store genomic information provides the user with far more information than just a simple parentage.

In the short term, genomic data can be used to identify sheep carrying major genes that influence performance – and longer term it can be used to generate more accurate and more informative genomic breeding values. This approach is already used in the beef and dairy industries, where it has enabled faster rates of genetic gain and more accuracy when selecting for lower heritability, maternal traits.

Ultrasound scanning

Ultrasound scanning provides sheep breeders with the opportunity to assess the carcase quality of their sheep. This information is then analysed to identify superior breeding lines.

Why use ultrasound to assess muscling?

Unlike growth rate, it isn't easy to identify sheep with superior muscling across the loin. Ultrasound images enable breeders to select animals with superior loins and avoid those with a high level of carcase fat. While this measurement simply reflects muscle depth across the loin, research indicates that selective breeding for muscle depth can greatly enhance total meat yield.

Raw Data or Estimated Breeding Values (EBVs)?

As with any raw performance data, muscle and fat depth measurements are affected by non-genetic factors such as age at scanning and flock nutrition. It is important that breeders select on the basis of muscle and fat depth EBVs, rather than on the raw data alone.

What is involved?

The technique involves parting the wool and applying liquid paraffin at the third lumbar vertebra at 90 degrees to the backbone. The transducer is adjusted until a clear image of the eye muscle and fat layers can be seen on the machine's screen. A single measurement is taken of muscle depth at the deepest point and three measures of fat depth are taken at 1cm intervals. These measurements are then submitted for inclusion in the forthcoming breeding evaluation.

When do I scan?

In the past, recorded flocks have been scanned at around 21 weeks of age onwards. However, in recent years, Signet changed their guidance to get a greater focus on the weight of lambs at scanning rather than their age. It is recognised that adjusting for the weight of the lamb is more commercially relevant and breeders now aim to scan lambs as they approach 40kg, though for hill flocks it is recognised they will often be lighter.

Flocks can opt to scan a sub-sample of their lambs, but as a minimum it is recommended that all potential male and female replacements are scanned – as well as any breeding sheep being sold to other flocks.

New approaches to assessing muscle and fat

The UK sheep industry were pioneers in the use of ultrasound scanning technology to assess muscle and fat levels across the loin.

Historically, traits like muscle depth have been adjusted for age within the analysis to identify those lambs that will lay down the most muscle at a certain age, regardless of weight.

Sheep with high Muscle Depth EBVs might achieve them in two ways:

- Being big, as genetically bigger sheep tend to have more muscle
- Having a high muscle depth, relative to their weight.

However, breeders can already select for growth rate using the Scan Weight EBV and a better approach is needed to assess muscling independently from growth, i.e. the ability to compare levels of muscling at a fixed weight, rather than a fixed age.

Within Signet's Terminal Sire and Hill Sheep breeding evaluations this new approach has been implemented, to help breeders to select more muscular lambs at a fixed liveweight.

Commercial context

The new approach is advantageous for commercial producers as lambs tend to be drawn on their weight (and finish), not their age. Commercial producers want lambs with the right amount of muscle and fat (finish) at a set weight, say 38kg liveweight – not a set age, and the new EBVs help achieve this.

In maternal breeding lines where female replacements are retained, it enables producers to breed lambs with a better yield of meat in their carcase without generating large increases in ewe mature size. This is an important consideration in breeding programmes where the efficiency of the ewe is important, particularly when farming in the hills and uplands.

Implications for breeders

Work completed by Janet Roden, Independent Sheep Geneticist, has shown that selecting for age adjusted muscle depth has enhanced muscling at a fixed liveweight – but the new approach will enable faster genetic gain.

Breeders benefit from the fact that weight adjusted traits tend to be more heritable than age adjusted traits. However, they also tend to show less genetic variation and the scale of any EBVs produced on a weight adjusted basis will be smaller.

When selecting for weight adjusted traits, breeders should be aware there can be a negative relationship between the amount of muscle and fat within the carcase. With weight adjusted traits, the size of the animal is assumed to be "fixed", so if it has more muscle, it tends to have less fat and vice versa. This explains why some of the gains made in the amount of muscle in the carcase in recent years has resulted in a reduction in the amount of fat in the carcase – when expressed at a fixed weight.

New approaches to assessing muscle and fat

Computed Tomography

Computed Tomography (CT) scanning is a great tool for identifying superior genetics within terminal sire flocks.

CT provides a welfare friendly way of assessing the total muscle, fat and bone yield in a live sheep. This near perfect predictor of carcase composition can also be used to measure the muscling in different parts of the carcase, such as the rib, loin and gigot.

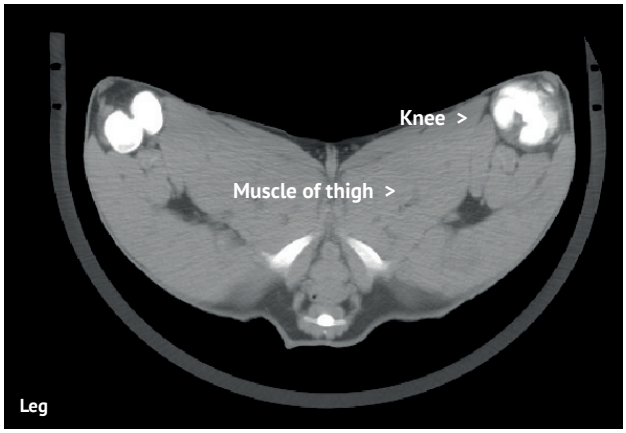
EBVs are produced from CT measurements to predict the total yield of muscle and fat within the carcase at a fixed weight, as well as the width of the gigot. In recent years a series of new CT derived traits have been created, these include:

- Vertebrae number and spine length (in both the thoracic and lumber regions)
- CT-predicted intramuscular fat (IMF)
- Eye muscle area across the loin.

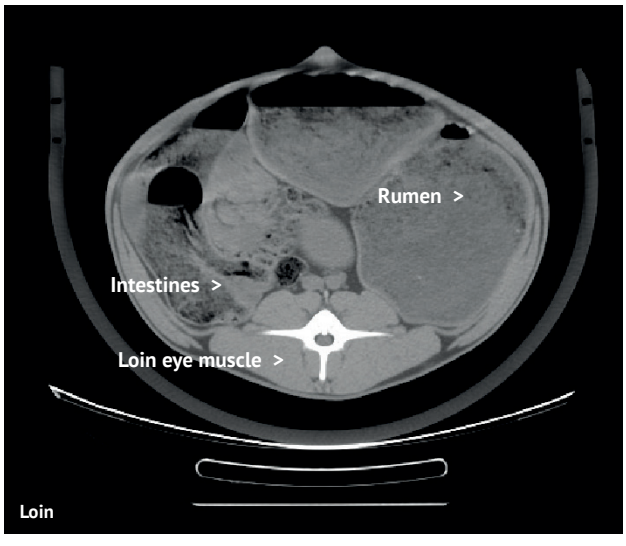
Why CT scan your lambs?

- CT scanning will increase the accuracy of EBVs produced for growth and carcase traits
- Where CT measures prove an individual or family to be genetically superior their indexes and EBVs will increase
- CT images can be used to assist the marketing of recorded rams

For more information contact the CT unit at SRUC
Email: *CTUnit@sruc.ac.uk*



Muscle of thigh >
Leg



Intestines >
Loin eye muscle >
Loin

Breeding for worm resistance

Increasing awareness of the costs associated with worm control and concerns relating to anthelmintic resistance have increased interest in breeding sheep with greater immunity to roundworms.

The degree to which sheep are affected by the presence of roundworms in their gut is quite variable, with some individuals affected much worse than others. This variation has a genetic component which, if it can be assessed, can be used to select animals that are genetically more resistant to roundworm infection.

Selecting rams within a closed flock that is breeding for worm resistance means their progeny have the potential to:

- Perform better, e.g. in terms of lamb growth rate, and require less frequent treatment with anthelmintics
- Shed fewer nematode eggs in their dung, therefore reducing the levels of larval challenge for other sheep
- Shed fewer worm eggs at lambing time, if kept as ewes, therefore reducing pasture contamination and improving lamb growth rates
- Reduce the worm burden on heavily stocked pastures over time.

Breeding for worm resistance provides both a useful way to improve flock performance and may become a valuable marketing tool for selling rams.

What does it take to breed for worm resistance?

There are currently two ways to breed for worm resistance and at the moment many of the breeders involved in this work do both.

FEC counts

- For several years, breeders have selected breeding animals on the basis of their low faecal egg counts (FEC). Breeders send faecal samples to a laboratory, who send FEC scores for analysis to produce FEC EBVs – indicating resistance to worms. The current FEC EBV produced by Signet is actually a sub-index comprising of two EBVs – one for Strongyles FEC (FEC S) and one for Nematodirus FEC (FEC N). All three breeding values are routinely published on the Signet website for participating flocks.

IgA levels

- Research at Glasgow University has shown the antibody responses against the larval stage of Teladorsagia circumcincta (an important member of the Strongyles family) can be used as a biological marker for host response to infection.

This provides a new way to identify differences between sheep. High levels of IgA have been shown to regulate both worm growth and fecundity – leading to a decrease in egg output. These differences are even more useful if they can be converted into breeding values. Work is on-going to determine the value of routinely measuring IgA levels in saliva and blood serum and using this as a novel phenotype to enhance breeding programmes for parasite resistance.

Remember, within any breeding programme where lambs are being sampled for parasite resistance, lambs must be experiencing a worm challenge. If you are interested in this work, ask for advice on the best time and the number of lambs you should sample.

What breeding information do I receive?

The principle of performance recording is to convert pedigree information (family relationships) and performance records (physical measurements) into breeding values to enable animals to be ranked on the basis of their genetic merit.

A statistical analysis, referred to as BLUP (Best Linear Unbiased Predictor), is used to determine how much of each animal's performance is due to their genetics and how much is due to environmental influences, including the farm of origin, their sex, age and rear type.

In each analysis, three types of breeding information are produced:

1. Estimated Breeding Values (EBVs);
2. Accuracy Values;
3. Breeding Indexes.

1. Estimated Breeding Values (EBVs)

EBVs provide a measure of an animal's breeding potential for a specific trait.

EBVs take into account performance data collected on an individual animal, its known relatives, the relationships between performance traits (correlations) and the degree to which traits are inherited from one generation to the next (heritabilities).

EBVs are expressed in the same units as the recorded trait (e.g. kg for 8-week weight) and they relate to a common baseline, which is the average breeding value of lambs born in a given year.

A ram will only pass on half its genes to its lambs, so EBVs must be halved to estimate the average genetic worth of a ram's progeny.

2. Accuracy Values

An EBV predicts the breeding merit of an animal for a specific trait. The degree to which this EBV reflects the "true" breeding merit of the animal depends on how much we know about its performance relative to the rest of the population.

Accuracy Values indicate how much we know about an animal and its relatives for a specific trait.

Why Accuracy Values matter

Accuracy Values indicate the likelihood of an EBV changing (up or down) as more information on the animal becomes available – although low Accuracy Values are not the only reason an animal's EBVs may fluctuate.

Accuracy Values account for the risk involved in making breeding decisions and provide buyers with the confidence that an EBV is accurate.

For any trait, the accuracy of the EBV is influenced by several factors:

- Amount of information for the animal
- Amount of information from relatives
- Heritability of the trait
- Amount of information from traits correlated with the trait of interest and the strength of these correlations
- Number of animals being compared (contemporaries).

3. Breeding Indexes

EBVs help select breeding stock for specific traits, but they can also be combined into Breeding Indexes. Each trait is weighted within the index according to its economic importance in meeting a specific breeding objective or objectives.

Signet produce bespoke Breeding Indexes for selecting both terminal sires and rams to breed female replacements, with Breeding Indexes derived to reflect both lowland and hill farming systems.

What breeding information do I receive?

Case Study: The New Hill Index

The Breeding Indexes that have been updated most recently are those designed for hill sheep producers. Using a full bio-economic model to represent hill farming systems, Janet Roden has developed indexes that take into account both the value of lambs sold, the benefits of increasing ewe longevity and lamb survival and the costs associated with increasing ewe mature size.

When combined, this information shows the degree of emphasis that should be placed on individual breeding values to generate the optimum breeding index for hill sheep producers.

Index customisation – a way for breeders to learn about indexes

For breeders that are interested in index weightings and wish to test their own ideas, a new online service is available from Signet that enables "index customisation". Funded by HCC and AHDB, this new breeding tool shows breeders how animals in the flock would rank if index weightings were changed and allows them to create indexes to meet their specific needs.

Displaying EBVs and Breeding Indexes

Breeding information can be presented in a number of ways, but breeding charts are typically the most informative; they show where a ram's genetic potential lies within the breed.

The centre line on the chart indicates the average performance for that breed. Bars to the right of the centre indicate above-average breeding values, meaning progeny are likely to have faster growth rates, more muscling and be fatter. Bars to the left indicate below-average values for those traits and leaner progeny.

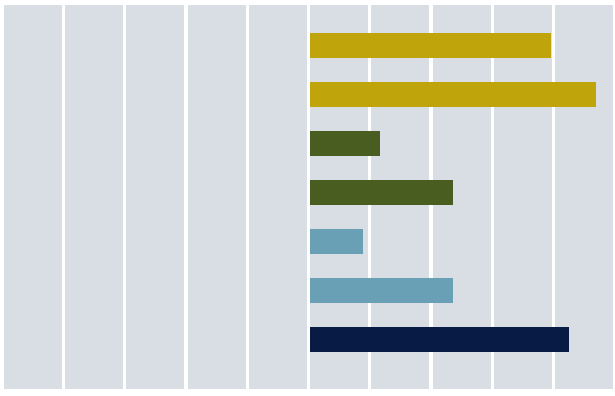
An example is shown here, displaying EBVs, Accuracy Values and a Breeding Index.

Seek the Standard

One simple approach that breeders have used to help buyers spot the highest genetic merit sheep in the pen at large ram sales is the use of silver, gold and gold+ tags to highlight Top 25%, 10% and 5% genetics.

This campaign, referred to as "Seek the Standard", encourages buyers to consider investing in high genetic merit stock.

- Seek – Tag-wearing, recorded rams with high indexes
- Check – The ear tag of the ram and find his latest EBVs either at the sale or online
- Review – The EBVs with the breeder to ensure they meet your breeding goals



	EBV	Acc
Litter Size	0.25	86
Maternal Ability	2.39	95
Eight-Week Weight	1.38	95
Scan Weight	6.37	97
Muscle Depth	1.41	92
Fat Depth	0.52	89
Index	297	92

What breeding information do I receive?

Create your own ram sale catalogue

Signet Clients can now produce their own mini-catalogues, using Signet's online cataloguing service. Contact Signet for details.

Example 1.

Lot: 1 UK 0 301301 02283 – FAIRWAYS DAVID
B: R 2:2 DoB: 15-04-2020 Sex: M
8-week Weight: Y Ultrasound Scan: Y
Sire: UK 0 301922 00237
Dam: UK 0 123123 01565

Analysis Date: 18-09-2020

	8-week Weight EBV	Litter Size EBV	Materanal Ability EBV	Scan Weight EBV	Muscle Depth EBV	Fat Depth EBV	Hill Index
EBV	1.16	0.03	0.86	2.12	1.37	0.03	147
ACC	59%	43%	59%	66%	67%	69%	65%

Vendor: A Jones & D Smith Tel: 01970 121212 Email: jonesandsmith@yahoo.co.uk

Online listing of sheep for sale

The Signet website enables breeders to host information about the sheep or semen that they have for sale either off-farm or at ram sales. Breeders can use this site to advertise the stock they have available.

For more details, head to *https://www.signetdata.com/sheep-search/search-sheep-for-sale/*

Where can I find more breeding information?

All of the breeding values generated in Signet's sheep breeding programmes are available online at **www.signetdata.com**

A simple search function provides open access to the breeding values of millions of animals. In addition to this, lists of leading sires, ram lambs and shearling rams are also publicly available.

On the Signet website commercial ram buyers can also find:

- EBV search – which enables potential buyers to find rams that meet their specific breeding objectives
- Flock finder – a list of recording breeders
- Sheep for sale – a list of recorded sheep that are for sale.

Individual Flock Reports

Breeders are sent paper reports containing breeding values once scanning data has been submitted for analysis. These reports contain updated breeding values for all of the lambs, shearlings, stock ewes and rams within the flock.

When do I get reports?

Signet currently produces a monthly analysis for terminal sire breeds and, over the coming year, this approach will be extended to hill breeds. Lowland maternal breeds currently get an analysis delivered to a series of data deadlines that are published on the Signet website.

The latest breeding values will always be found online at **www.signetdata.com**. Paper copies of reports tend to be sent out after scanning data has been analysed.

What should I do when I get my report?

1. Check the information is correct and inform the service provider of any amendments.
2. Consider your breeding objectives. Which traits do you wish to improve through selection?
3. Identify ewe lambs/shearlings with high genetic merit and good physical assessments to be retained in the flock. Identify those with low genetic merit to be sold.
4. Identify stock sires that have performed well in previous years and consider retaining homebred ram lambs with good breeding values.
5. When purchasing a new stock ram, always check its current EBVs.
6. Review your genetic progress over time. The Signet website provides breeders with the opportunity to see the progress they are making for a given trait.

Remember

- EBVs and Breeding Indexes are an important guide to aid selection decisions, but you still need to use your shepherding skills and knowledge to ensure the retention of good quality, structurally sound and functional sheep.
- Breeders need to think about the type of sheep they wish to retain. The ability to select within and retain a specific breed type is within their control.

New flock

The establishment of a new flock recording programme takes time. Many of the ewes in the flock are only being assessed on the basis of a couple of lamb records and early culling decisions should be made with care.

In the first year, focus on the differences that can be seen between the sires (as they will have the most accurate breeding values).

Remember

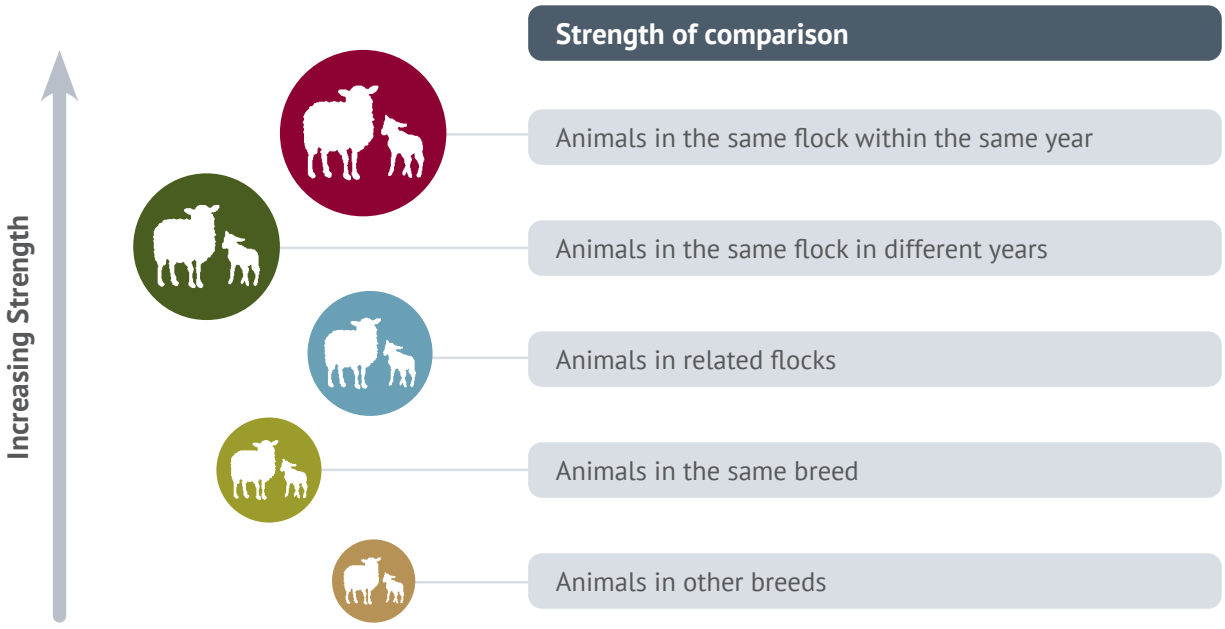
- A ram's genetic merit for maternal traits can only be assessed through female relatives. For a brand new stock ram, it will take a couple of years for these to be assessed through daughter records, unless his female ancestors have been recorded.
  - This is where Accuracy Values can prove useful in helping to make breeding decisions.
- Take care in making comparisons between the EBVs for sheep in your flocks and those in other flocks unless there is good genetic linkage between both flocks.

Comparing sheep reared in different flocks

Although all flocks are analysed within a multi-flock evaluation, to enable accurate comparisons to be made between flocks there needs to be some genetic linkage between them, i.e. some common genetics used between the flocks through shared or related rams.

Whilst maintaining genetic linkage between flocks is a challenge, by working together breeders can enable robust comparisons to be made. To build linkage, breeders are advised to exchange or share some Signet recorded rams of known genetic merit. Older stock rams with progeny on the ground create particularly good linkage.

A new online tool to report the degree of genetic linkage that exists between flocks is being developed.



Fit for purpose rams

Selling rams is what sheep breeding is all about. However, to ensure future success breeders need to produce rams that producers want to buy again and again.

For a commercial buyer rams are costly to purchase and therefore must last at least three or four mating seasons. However, too many die or have to be culled after just one or two years.

Overfeeding

There have been concerns for many years that some breeding rams are overfed and that this may limit their working life and the number of ewes they will cover. Overfeeding can also mask a ram's genetic merit for traits such as grazing ability and parasite resistance.

In recent years, ram buyers have been increasingly active in looking for rams that have been performance tested under forage based conditions.

Health Status

The introduction of a new ram into the flock brings with it the risk of introducing disease. Help your customers by knowing the status of your flock for diseases like Maedi Visna, Border disease, OPA, CLA and Ovine Johne's disease.

Ensure rams are not carrying drug-resistant parasites or foot infections that could be spread within the flock.

A Judgement Call

Every breeder will need to reach a balance where rams have been tested and recorded under commercial farming conditions, but also look the part when presented for sale. Extreme rams that are either overfed or badly presented are not likely to find a buyer.

By producing what the market wants and needs, ram buyers can be encouraged to invest with confidence in rams with superior genetics – reassured they will have a long and productive working life.

Marketing recorded rams

Ram buyers do not make their decisions solely on the basis of a ram's genetic merit and appearance – other features such as the health status, after-sales service and breeder reputation all play their part.

There are many ways ram sellers can influence ram purchasing decisions, thinking more about their 'product', their customers and how they communicate with them.

With so much effort going into producing high-quality breeding stock, it is a pity not to maximise returns by poor or non-existent marketing.

Five Simple Marketing Ideas

1. Consider the unique selling point for your ram and farming business. Do your customers understand the benefits they bring?
2. Remember farmers are motivated by different things. Some will rate your expertise, some value the rewards obtained from investing in your genetics, while others simply buy because of the self-satisfaction it brings.
3. Make your breeding information accessible:

- Send promotional mailings/emails to potential and existing customers
- Report EBVs in sales catalogues
- Print EBV sale charts for animals
- Use social media to reach out to potential customers.

4. Develop a database of past and present customers with details of previous purchases and current contact details.
5. Think about your marketplace and prepare and present your rams accordingly. The appearance of a ram is still important. EBVs explain a great deal about an animal's genetic potential, but at a multi-vendor sale those rams that are poorly presented are unlikely to sell.

Building a relationship

Post-sale and out of sale season engagement with buyers is just as vital as pre-sale engagement. Getting to know your buyers and allowing them to get to know you and your production system is a powerful tool to help drive repeat custom. Understanding their needs can help breeders develop clearer breeding goals and target areas for improvement.

Things to consider:

- A quarterly newsletter
- Communication at the start of lambing, wishing them luck and asking them to let you know how they get on
- Open evenings on farm.

Further information

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For further information on this booklet or the work of HCC please visit **meatpromotion.wales**