HOW TO PERFORMANCE RECORD YOUR HERD WITH SIGNET

Signet
BREEDING SERVICES
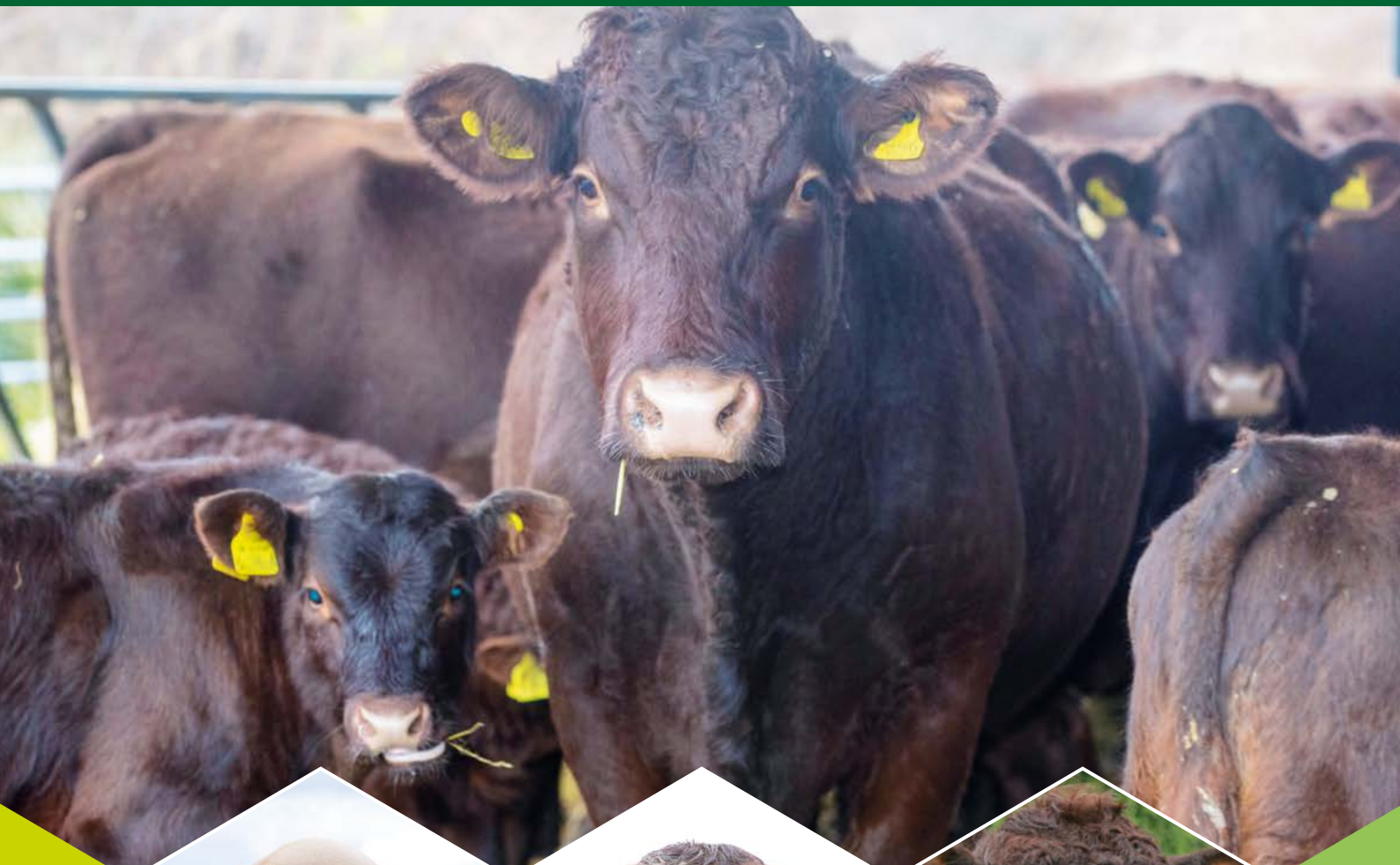
WHY RECORD WITH SIGNET

Through the analysis of pedigree and performance records, Signet's Beefbreeder service provides a range of Estimated Breeding Values (EBVs) and breeding indexes that enable beef producers to identify genetically superior cattle.

The service is important when traits of interest are clearly visible, such as growth rate and carcase conformation and vital when assessing maternal attributes that can't be assessed visually; with trials showing the right bull can be worth an extra £2,000 over their working lifetime, it makes sense to find the cattle with the right genetics for your herd.

Signet's breeding values give buyers the confidence to invest in the best, and whether you sell from home, auction or online, clearly, it pays to record.

Join Signet today and start unlocking the potential of your herd.

PERFORMANCE RECORDING ADDS VALUE

To commercial herds

Commercial finishers and suckled calf producers are enhancing herd productivity by up to £45/calf, selecting bulls with:

〉 **High weight EBVs** – Increasing sale weights and reducing days to slaughter

〉 **Superior carcase EBVs** – Improving carcase conformation

〉 **Superior maternal EBVs** – Breeding productive cows that produce more calves during their working lifetime

〉 **Easier calving EBVs** – Reducing the costs associated with difficult calvings

To pedigree herds

Bull buyers are seeking the most profitable, high genetic merit bulls. This means breeders can achieve:

〉 **Greater clearance rates** for recorded bulls than bulls that are unrecorded at sales

〉 **Premiums paid** for recorded bulls with superior EBVs

By using Signet's breeding values and inbreeding software in their breeding programme, breeders also benefit from improvements in the performance of their herd.

Commercial bull buyers are actively seeking bulls with EBVs. This means it pays to record.

HOW DO I START RECORDING MY HERD?

IT IS EASY TO GET STARTED:

1. Contact the Signet bureau team for a contract.

2. Provide pedigree details for the breeding cows and bulls in your herd. For some breeds, this data can be accessed directly from the Breed Society.

3. Once we set up your account, the signet website (**signetdata.com**) and you're good to go. Simply use your email to log in and set up a new password.

4. Calving records and weights can be entered directly into the Signet website or exported from farm software.

5. New purchases can be added to the herd by sending their details to the Signet bureau.

6. Ultrasound scanning is an optional extra. To book a technician, contact Signet directly.

7. Once your records have been analysed, the website provides reporting tools to evaluate herd performance and generate marketing material, such as charts and catalogues.

HOW DO I SUBMIT DATA?

There are two ways to submit data to Signet.

Online data entry

For small herds, the easiest way to record with Signet is to enter your data directly into the database.

Breeders can enter:

❯ Calving records – including birth weight, ease of calving and embryo transfer details

❯ Weight records for cows and calves

❯ Census data

❯ Animal names

Signet's user-friendly screens make data entry simple. For clients requiring assistance, a series of step-by-step video tutorials are available.

Provide data in electronic files

Clients can supply data to Signet in an electronic format. Data must adhere to the file specifications provided on the Signet website, with sire and dam identities matching those on the database. Clients using farm software may be able to export their data directly.

> Accurate and timely data collection is at the heart of any recording system. Signet require data at specific times in the year according to a schedule published on the Signet website.

DO LINCOLN RED BREEDERS NEED TO DO THIS?

Calving records for Lincoln Red cattle will be provided to Signet by the Lincoln Red Cattle Society, so breeders only need to access the Signet database to enter weights.

TIPS FOR MAKING RECORDING EASY

❭ Collect weight records around other tasks. There is no need to make a special job of weighing your cattle

❭ Cattle should be weighed roughly every 100 days. By weighing cattle on housing and turnout, breeders optimise their opportunity to get an accurately adjusted 200- or 400-day weight

- To get a 200-day adjusted weight, a weight is required between 170 and 300 days of age

- To get a 400-day adjusted weight, a weight is required between 370 and 500 days of age

❭ When submitting weights:

- Try to treat all your cattle the same. Where different management groups exist, code them accordingly

- Ensure your weight scales are calibrated

- Weigh all your cattle, with the odd exception of any calves in very poor health

❭ Recording birth weights is not essential. Although having the data is important, the evaluation will work without it

❭ Consider the use of labour-saving devices: particularly in larger herds, such as electronic tags and weigh scales

❭ Ultrasound scanning is most effective in medium to larger herds when at least five cattle from the same management group can be presented for scanning

❭ Involve your staff. Data collection often involves a wide team of staff. Whoever is involved in data collection needs to be aware of the importance of accuracy and timeliness in data submission and, ideally, be party to the results of their efforts

CONTEMPORARY GROUPS AND MANAGEMENT CODES

Animals that have been treated in a similar way, e.g. born over a relatively short period of time on the same farm and fed and managed similarly – are known as contemporaries.

Within the analysis, animals that have been reared in a similar manner are assigned to contemporary groups to enable comparisons to be made across the herd, though groups are sometimes merged in small herds.

Management codes are submitted with weights to highlight differences in management and are used in the evaluation for contemporary group creation (see codes below).

Codes used from 14 to 369 days of age
1 = suckling dam only
2 = suckling dam and creep feed
3 = suckling nurse cow and creep feed
4 = suckling nurse cow only
5 = bucket fed
6 = double suckling with creep

Codes used from 370 days of age
1 = commercial management
2 = standard pedigree management
3 = show management

ADDITIONAL MEASUREMENTS

MATURE COW WEIGHT AND BODY CONDITION SCORE (BCS)

Each year breeders can record the mature weight of their cows at weaning time, along with a body condition score (1 to 5) and management code. This trait is of importance in maternal breeds, where it may be desirable to limit increases in cow size, while continuing to enhance calf growth rates.

## SCROTAL CIRCUMFERENCE (OPTIONAL)

It is well-known that bulls with above-average scrotal circumference will produce female offspring that reach puberty sooner and have the potential for greater lifetime reproductive performance.

Beefbreeder members recording with Signet can include scrotal circumference measurements in their recording program, and once enough records have been submitted, EBVs will be produced.

Breeders wishing to submit scrotal circumference measurements should wait until bulls are 400 days of age to take this measurement. Measurements should be in centimetres and taken across the widest point of the scrotum.

Using measuring tapes designed for this purpose, such as ReliaBull, provides consistency in technique using a pressure mechanism.

The collection of this data is entirely at the discretion of individual breeders. If measurements are being collected, breeders are advised to use a crush and take care to avoid the potential risk of injury
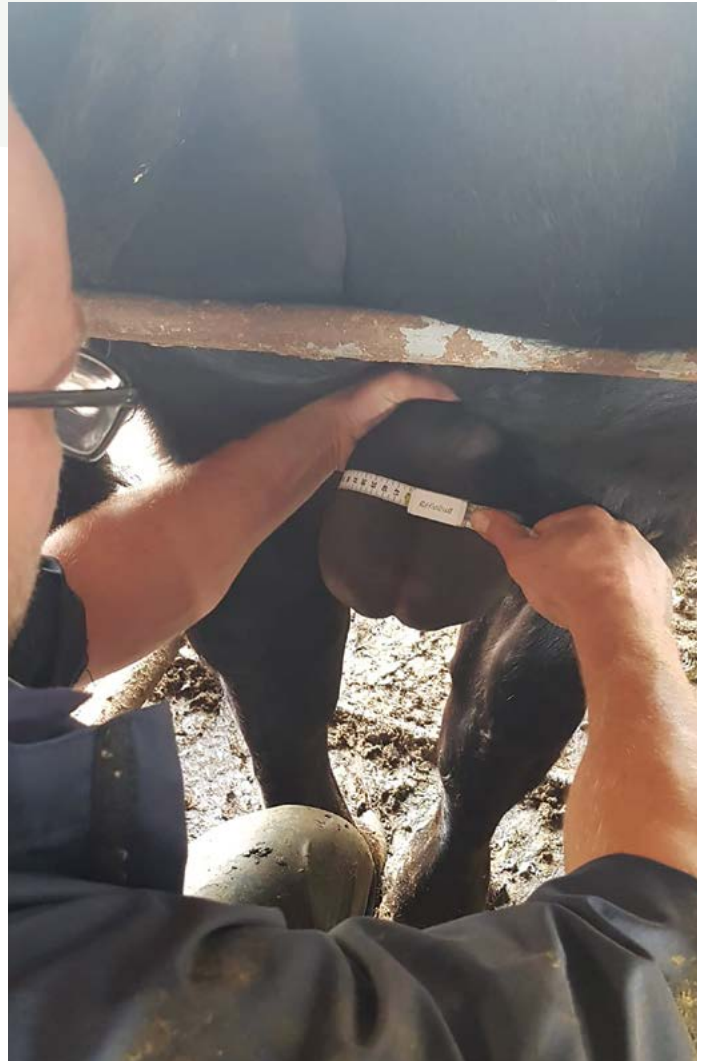
ULTRASOUND SCANNING SERVICES

Ultrasound scanning provides cattle breeders with the opportunity to assess the carcase quality of their cattle by measuring muscle and fat levels in the live animal. This information is then analysed to identify superior breeding lines. Cattle are typically scanned between 300 and 500 days of age.

WHY USE ULTRASOUND TO ASSESS MUSCLING?

Unlike growth rate, it is not easy to identify cattle 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 enhance total meat yield.

HOW CAN THE DATA BE USED?

Scanning is an aid to bull and heifer selection, as well as assisting in the marketing of stock bulls and semen.

Scanning can be extremely useful when assessing new breeding lines, enhancing the evaluation of untested or imported breeding lines – enabling the best genetics to get better EBVs more quickly.

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 herd nutrition.

It is important that breeders select based on muscle and fat depth EBVs, rather than on the raw data alone.

HELPING THE SCANNING TECHNICIAN

To make the most efficient use of your technician, we suggest:

〉 All youngstock between 300–500 days should be presented for scanning as the analysis involves comparisons with contemporaries. Only late-born calves or animals in poor health should be excluded

〉 A crush is required so the cattle can be restrained and weighed at scanning time

〉 The handling should take place undercover, and mains power is necessary at the scanning point.

〉 Notify the technician about any groups of cattle that have been managed differently, so this can be recorded and please have your Beefbreeder records to hand in case there are any queries relating to animal identities

For contact details for Signet-accredited scanners go to the Signet website: **signetdata.com**

PRODUCING FIT FOR PURPOSE BULLS

The production of bulls that will have a long productive life should be at the forefront of modern cattle breeding. Bull buyers are using EBVs to make informed decisions when sourcing stock directly from farm or via official Society sales.

Selecting the right bull and ensuring he has a long working life has a major impact on suckler herd profitability. Nutrition, health and good management drive fertility.

NUTRITION AND BODY CONDITION SCORE (BCS)

When feeding bulls prior to mating, dramatic changes in diet should be avoided and access provided to high-quality feed to optimise sperm production and maintain body condition. Ensuring bulls are at BCS 3–3.5 when they start working means bulls are fit and not fat, with the capacity to lose a body condition score over the mating season. Carrying excess fat around the testicles can have implications on bull fertility, reducing their ability to maintain the cooler temperatures required for optimum sperm production.

Ensure adequate levels of good-quality protein (this can be met with good-quality forage) are being fed in the pre-mating period to optimise sperm production, and this should be continued through the service period.

HEALTH STATUS

Breeding bulls can spread diseases between herds. Breeders should work with veterinary professionals and health schemes to ensure bulls are tested, vaccinated and treated before sale.

Breed Society sales will often require a herd's health status to be known and presented in the sale catalogue.

Accreditation schemes overseen by Cattle Health Certification Standards (CHeCS) allow herds to demonstrate their health status for diseases such as Johne's disease, bovine viral diarrhoea (BVD), infectious bovine rhinotracheitis (IBR), leptospirosis and Neospora caninum.

Quarantine protocols should be implemented for all bought in stock, especially when purchasing from a market, with a four-week quarantine period adhered to in an isolation facility.

PHYSICAL SOUNDNESS

Poor mobility and lameness are the biggest causes of the premature culling of breeding bulls, so a pre-sale assessment of conformation and locomotion is essential.

Consider conducting a bull MOT prior to the breeding season. These assessments help to ensure bulls are physically fit and fertile. They assess:
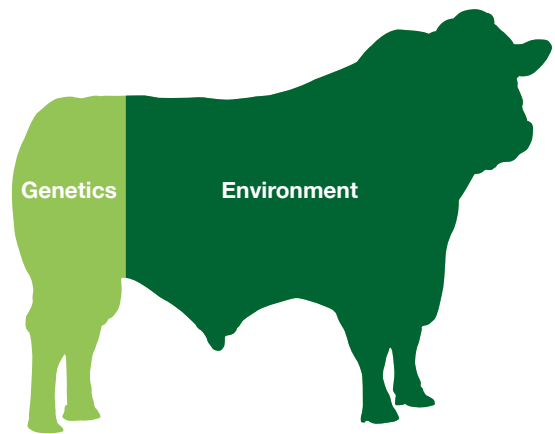
> Feet, legs and locomotion
> Scrotum and testes
> Body condition score
> Semen quality
> Health treatments

ESTIMATED BREEDING VALUES
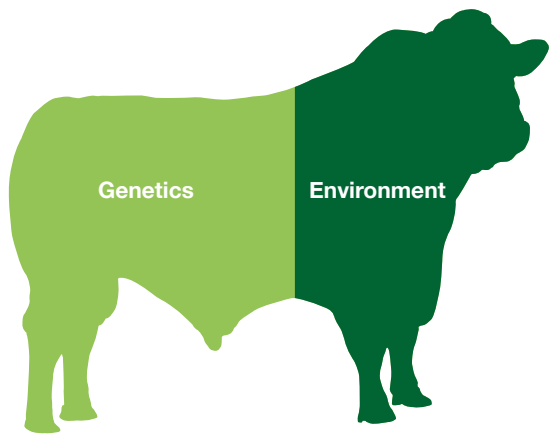
High heritability traits like growth rate and mature size

Low heritability traits like fertility and calf survival

The pedigree and performance data collected on farm is analysed using a procedure called BLUP (Best Linear Unbiased Predictor). This calculates how much of each animal's performance is due to its genetics and how much is attributed to the environment in which it was reared. Genetic differences are expressed as Estimated Breeding Values (or EBVs).

HOW ARE EBVS CALCULATED?

EBVs are calculated using information from several sources:

❯ Measurements from the animal itself

❯ Measurements from the animal's herd mates, known as contemporaries

❯ Measurements from the animal's relatives and their contemporaries

❯ Information on similar traits that may be influenced by the same genes

❯ The degree to which each trait is passed to the next generation, known as heritability

Performance records

Pedigree records

Production of EBVs and Indexes

BREEDING VALUES EXPLAINED

EBV/Index	Explanation	Interpretation
Birth Weight	The genetic potential of calf birth weight. Negative values indicate cattle that will produce smaller calves. High values are more likely to be associated with difficult calvings.	Negative values = lighter calves born
Calving Ease (Direct)	Estimates the percentage of unassisted calvings that will be derived when using a particular sire.	Positive values = more unassisted calvings
Maternal Calving Ease	Identifies females that have the genetic potential to calve more easily. This EBV should be used in conjunction with calving ease (direct) to determine the overall ease of calving.	Positive values = more unassisted calvings
Gestation Length	Short gestation lengths result in easier calving because birthweights tend to be lower.	Negative values = shorter gestation length
200-Day Weight	Genetic potential for growth to 200 days of age.	Positive values = faster growth rates
400-Day Weight	Genetic potential for growth to 400 days of age. Selection for faster growth will result in animals that have heavier carcases at a constant fat class or leaner carcases at a constant age. However, selection for higher growth rates may result in higher birthweights and mature size.	Positive values = faster growth rates
Muscle Depth	Selecting for this trait will increase the yield of lean meat in the carcase.	Positive values = deeper loin muscles
Fat Depth	Indicates animals capable of producing leaner carcases, which can be taken to heavier carcase weights without becoming overfat.	Negative values = leaner carcases
200-Day Milk	The maternal component of 200-day weight. It indicates how well a bull's heifer calves will perform when they become mothers and is greatly influenced by milking ability.	Positive values = more productive females
Age at First Calving	Herds looking to calve heifers at two years of age can use this breeding value to increase conception rates at first mating.	Negative values = heifers that calve at a younger age
Longevity	Predicts the length of a cow's breeding life in the herd.	Positive values = greater longevity
Calving Interval	This EBV can be used to breed cows with short calving intervals that get in calf again quickly.	Negative values = shorter calving intervals

BREEDING INDEXES

While EBVs aid the selection of cattle for specific traits, they can be combined into breeding indexes using economic weightings to meet broader breeding objectives.

Signet publish the following breeding indexes:

Calving Value – Highlights bulls whose calves will be born easily.

Beef Value – Identifies superior cattle for growth and carcase traits.

Maternal Value – Indicates the best bulls for maternal traits, like milk production and longevity, which are important when breeding female replacements.

Maternal Production Value – An overall index calculated from Calving Value, Beef Value and Maternal Value. This index identifies the most profitable cattle for self-replacing herds, where bull calves are slaughtered, and heifers retained.

ACCURACY VALUES

An accuracy value is published with every EBV; they indicate how close an EBV is to the animal's true genetic merit. Accuracy values are influenced by the amount of data recorded for an animal and their relatives. Unrecorded cattle will have low accuracy values until their progeny have been performance recorded, and this will be reflected in their EBVs.

IMPROVING THE PERFORMANCE OF YOUR HERD

Signet recording provides breeders with information to make informed breeding decisions. These are all readily accessible on the Signet website alongside additional tools such as inbreeding software to assist in making those all-important breeding decisions.

BREEDING REPORTS

Breeding reports show the EBVs and indexes of sires, dams and youngstock in the herd and can be downloaded from the Signet website. Each report updates and supersedes the last.

Breed Summary reports highlight leading Sires and Promising Young Bulls across the breed.

Promising young stock – bulls

Analysis Date:23-09-2022

Animal	Sire	Dam	Birth Date / Sex	Breed/ 16ths	Birth Weight	Calving Ease	Maternal Calving Ease	Gestation Length	Cal...	...ving Value	200 Day Weight	400 Day Weight	Muscle Depth	Fat Depth	Beef Value	...alving ...erval	Maternal Value	Maternal Prod Value
UK 260855/300639 BOXTED	UK 260855/300478 BOXTED MAJOR 8TH	UK 260855/200428 BOXTED POLL FINCH 1ST	02-04-2021 M	SU / 16	2.50 69	0.00 61	0.00 38	1.30 51		1 61	43 73	86 74	5.40 66	0.20 53	48 74	50 31	16 39	27 53
UK 260855/300646 BOXTED	UK 260855/300478 BOXTED MAJOR 8TH	UK 260855/700447 BOXTED HEEDLESS 30TH	18-04-2021 M	SU / 16	1.50 69	0.70 61	-0.20 38	0.50 51		2 61	39 74	81 74	5.40 66	0.20 53	49 74	70 30	24 39	41 53
UK 266661/400226 COOPERS	UK 262232/501876 COOPERS MAJOR 1ST	UK 262318/701119 MAYFIELD POLL SNOWDROP 25T	04-05-2021 M	SU / 16	0.90 45	0.60 41	0.60 27	0.60 27		2 61	12 66	37 61	1.40 56	0.20 37	2	10 23	6 30	11 41
UK 261013/302138 GOLDSTONE	UK 260841/200785 HOLM PLACE ENDEAVOUR 4TH	UK 261013/101492 GOLDSTONE POLL SNOWDROP 197	23-08-2021 M	SU / 14	2.00 58	-0.20 59	0.30 34	0.80 39	5 28							0.10 29	16 38	29 50
UK 261013/702128 GOLDSTONE	UK 261013/701484 GOLDSTONE POLL VISION 6TH	UK 261013/201178 GOLDSTONE POLL LOFTY LILY 3	18-08-2021 M	SU / 14	1.90 61	-0.60 60	0.10 36	0.20 40	1 55	75	35	76	5.10	67		0.90 36	0.50 31	21 40	40 51
UK 261013/602134 GOLDSTONE	UK 261028/302392 ELBRIDGE POLL CAPTAIN 4TH	UK 261013/101163 GOLDSTONE SNOWDROP 215TH	21-08-2021 M	SU / 15	2.80 63	-1.60 63	0.60 37	1.80 44	-1 58	36 74	64 70	67 51	72 48	-3 47	-0.08	0.50 39	-1.60 31	15 42	16 53

INBREEDING SOFTWARE

Inbreeding software allows breeders to determine the degree of relatedness between individual animals and predict levels of inbreeding between specific matings. Inbreeding software is made freely available to Signet clients, helping them to avoid increases in inbreeding while planning their breeding programmes.

AHDB NATIONAL BEEF EVALUATION

Additional EBVs can be accessed from the Signet website though a link to the National Beef Evaluation. This web page provides breeding values for terminal and maternal traits like carcase weight, conformation, fat class and days to slaughter. For more details, see **ahdbbeef.egenes.co.uk**

MAKING YOUR STOCK STAND OUT

There are many ways to display breeding information. The two most important are sale cards and sale catalogues, both of which can be created and published from the Signet website. Each report displays pedigree information, weight records and EBVs.

SALE CARDS

Bars that lie to the right of the central line indicate the EBV/Index is above breed average (and the further it is to the right, the higher above breed average it is).

Similarly, bars to the left of the central line indicate the EBV/Index is below breed average.

SALE CATALOGUES

Catalogues can be produced by breeders or Breed Societies with detailed listings for individual animals.

Catalogues created in this manner will be automatically displayed on the Cattle For Sale page of the website.
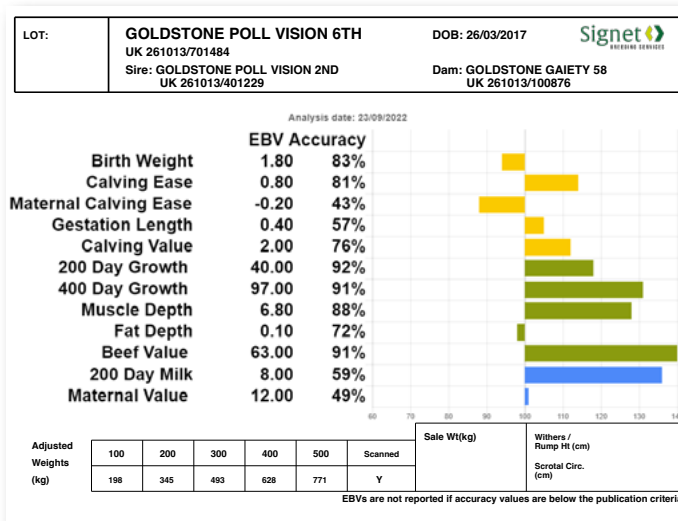
CATTLE FOR SALE

Signet hosts a webpage showing cattle for sale. This facility is available to all recording members and provides another platform to advertise their stock. Over the past couple of years, this page has been utilised by many breeders and buyers alike looking to advertise and source elite performance-recorded stock.

signetdata.com/beef-search/search-cattle-for-sale

HERD FINDER

To help bull buyers find their nearest herd, Signet launched 'Herd Finder'. This simple online breeder directory leads potential buyers to their nearest Signet recorded herd.

signetdata.com/beef-search/herd-finder

LOT:	GOLDSTONE POLL VISION 6TH	DOB: 26/03/2017	Signet
	UK 261013/701484		
	Sire: GOLDSTONE POLL VISION 2ND	Dam: GOLDSTONE GAIETY 58	
	UK 261013/401229	UK 261013/100876	

Analysis date: 23/09/2022

	EBV	Accuracy
Birth Weight	1.80	83%
Calving Ease	0.80	81%
Maternal Calving Ease	-0.20	43%
Gestation Length	0.40	57%
Calving Value	2.00	76%
200 Day Growth	40.00	92%
400 Day Growth	97.00	91%
Muscle Depth	6.80	88%
Fat Depth	0.10	72%
Beef Value	63.00	91%
200 Day Milk	8.00	59%
Maternal Value	12.00	49%

Adjusted Weights (kg)	100	200	300	400	500	Scanned	Sale Wt(kg)	Withers / Rump Ht (cm)
	198	345	493	628	771	Y		Scrotal Circ. (cm)

EBVs are not reported if accuracy values are below the publication criteria

Lot: 0

UK 261013/701484 - GOLDSTONE POLL VISION 6TH - 17-0950-P
DoB: 26-03-2017   Sex: M   B:R Single: ET: N

Sire: GOLDSTONE POLL VISION 2ND - UK 261013/401229
    G.Sire: UK 261013/400984   **G.Dam:** UK 261013/100491
Dam: GOLDSTONE GAIETY 58 - UK 261013/100876
    G.Sire: UK 261013/700140   **G.Dam:** UK 261013/700280

Adjusted weights

	100 Day	200 Day	300 Day	400 Day	500 Day	Scanned
Weight (kg)	198	345	493	628	771	Y

Analysis Date: 23-09-2022

	Birth Weight EBV	Calving Ease EBV	Calving Value EBV	200 Day Weight EBV	400 Day Weight EBV	Muscle Depth EBV	Fat Depth EBV	Beef Value	Maternal Value
EBV	1.80	0.80	2	40	97	6.80	0.10	63	12
ACC	83%	81%	76%	92%	91%	88%	72%	91%	49%

Vendor: Chandler & Dunn Ltd, Tel: 01304 812262, Email: office@chandleranddunn.co.uk

Signet provides the industry with EBVs calculated from over 1 million cattle records, but our services go far beyond the simple production of breeding values. Contact us today and see how we can help your pedigree herd.

Further information:

❯ **Choosing bulls for better returns booklet**
❯ **AHDB National Beef Evaluation ahdbbeef.egenes.co.uk**

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