RamCOMPARE

PRELIMINARY RESULTS

NOVEMBER 2017

Contents

Introduction

Rarely have the results of a project been as eagerly anticipated as those of RamCompare. Over 70 rams have been on-test over the past two years and many breeders are extremely keen to see how their breeding ranks for traits like growth and carcase conformation. This is the first step in publishing results from the first two years of the project. Over 60 new rams are already on-test for phase two of the project.

Experience overseas shows the sheep industry wants information that enables comparison between rams of different breeds. Access to multi-breed progeny test data in New Zealand, Australia and Ireland has revolutionised the use and uptake of high genetic merit stock in these countries.

The results of the first two batches of rams through RamCompare coincides with Signet Breeding Services starting to use combined breed analysis (CBA) for all performance recorded terminal sire breeds. The use of CBA will enable more frequent analyses, the provision of new traits, a more accurate analysis of crossbreds and a degree of comparison between breeds where they are run together.

Like RamCompare, this new approach represents a major change for the sheep industry and an opportunity to provide commercial producers with information to identify the most profitable rams for their flocks. This is an exciting time for terminal sire breeders and their customers.

We trust this report is informative and welcome your feedback.

We would like to thank all the farmers, partners and funders involved in RamCompare for their work and enthusiasm.

Samuel Boon, Liz Genever and Bridget Lloyd AHDB

What is RamCompare?

RamCompare is the UK's first commercial progeny test for terminal sire rams. Over 4,000 ewes have been mated over two seasons to over 70 leading rams through artificial insemination (AI) and natural mating. Data on growth and carcase traits have been collected from their lambs under commercial conditions, fed back directly into genetic evaluations and used to produce new estimated breeding values (EBVs).

The ambition of RamCompare is to provide commercial farmers with the ability, through new EBVs, to select rams that produce progeny that are more likely to meet target market specifications. These EBVs will be used by pedigree breeders to enhance the breeding of rams for commercially important traits.

Why was RamCompare needed?

- To compare the performance of progeny by different rams from different breeds for a range of traits
- To collect data that could be used to validate the combined breed analysis
- To determine whether commercial abattoir data could be used to produce EBVs for carcase traits
- To assess a recommendation from the AHDB Genetic and Genomic Review produced in 2015 on how genetic improvement could be enhanced in the UK sheep industry

What have we learnt?

RamCompare has proven that robust data can be collected throughout the supply chain – farms, abattoirs and cutting rooms – and used in genetic evaluations.

It has led to new approaches to assessing the performance of pedigree animals, for example, providing the evidence to change the way ultrasound-scanning data is collected and analysed.

New approaches to enhance genetic linkage between recording flocks have been developed, including the provision of semen from RamCompare-tested rams back into the pedigree sector.

RamCompare has provided a dataset of phenotypes for hard-to-measure traits, including those influencing lamb survival, primal yields and tenderness. It has also helped improve understanding of the best ways to collect, store and analyse DNA information, which can be used in further genomic evaluations.

Who was involved?

Six farms located across the UK were involved in data collection. The information collected included:

- Ewe records – breed, age, weight and body condition score throughout the year and sire group
- Lambing records – including sire and dam, number born, birth weight, ease of birth, deaths and fostering information
- On-farm lamb performance – weights at around 56 days, 90 days and at sale, and ultrasound muscle and fat depth measurements around 90 days
- DNA samples for future research
- Carcase information – carcase weight, conformation and fat class

Saleable meat yield (by weighing primals) and tenderness score on loins (shear force) were collected from a proportion of the lamb crop (around 15 female lambs per sire).

Nearly 6,000 lambs were recorded from birth to slaughter over the first two years of RamCompare, with over 100,000 individual measurements taken.

What have we done with the information?

During the initial data gathering phase, RamCompare has actively communicated with commercial farmers and pedigree breeders at events, shows and via newsletters and the farming press.

Three new EBVs have been generated – carcase conformation, carcase fat class and carcase weight – and are published here for the first time. An EBV for days to slaughter is still being developed.

Data collected on farm, such as ultrasound measures of muscle and fat depth, have been used to enhance existing EBVs and some of these are included in this report.

Meet the farmers

Antony Pearce, Moat Farm, Buckinghamshire
Rams tested: 15 (3 Charollais, 4 Hampshire Down, 5 Suffolk, 3 Texel)
Lambs recorded: 908

Antony manages a 500ha mixed enterprise at Moat Farm. As a rural business adviser, benchmarking is critical to all decision making for his farm businesses, with costs of production carefully tracked.

His February/March lambing flock of Aberfield-cross Beulah ewes is focused on optimising lamb growth rates, with high stocking rates and carefully monitored grass performance. No concentrates are fed to ewes, instead he winters them on forage rape and lucerne hay immediately prior to lambing. Lambs are finished on grass with a small amount of concentrates.

Percentage of lambs recorded from each breed.

Duncan Nelless, Thistleyhaugh, Northumberland

Rams tested: 16 (3 Charollais, 6 Hampshire Down, 3 Suffolk, 4 Texel)
Lambs recorded: 1,525

Thistleyhaugh is a 404ha upland family farm with a large organic sheep enterprise. Lambs are born April/May and are finished from ten weeks using clover-rich leys. The RamCompare flock consisted of second-tier ewes drafted out of Duncan's Signet-recorded Lleyn flock.

Percentage of lambs recorded from each breed.

Ian Robertson, Chawton Park Farm, Hampshire
Rams tested: 16 (5 Charollais, 5 Hampshire Down, 3 Suffolk, 3 Texel)
Lamb records collected: 1,691

Ian has a long history of involvement in data collection. He farms 270ha of grassland on the edge of the North Hampshire Downs. At the beginning of December, Ian turns RamCompare sires out with over 70 ewes as single sire mating groups for four weeks to ensure a concise lambing. Commercial ewes lamb outdoors in May, alongside his pedigree Lleyn flock, with lambs finished off forage and some creep in the autumn.

Percentage of lambs recorded from each breed.

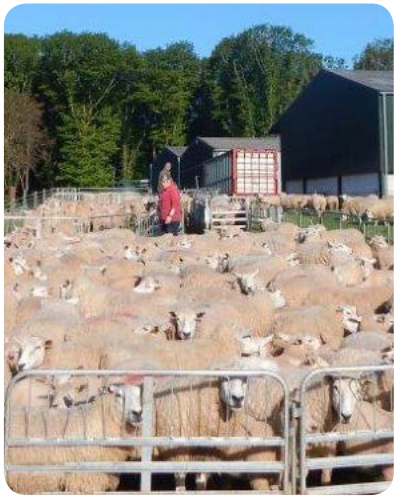
Percentage of lambs recorded from each breed.

Sion Williams, Bowhill Estate, Selkirk
Rams tested: 16 (4 Charollais, 1 Hampshire Down, 4 Meatlinc, 3 Suffolk, 4 Texel)
Lamb records collected: 1,345

The RamCompare flock is located at the Buccleuch's Bowhill Estate (3,563ha) and forms part of a sheep enterprise extending to 5,200 breeding ewes. Aberdale-cross Scottish Blackface ewes have been used within the project.

The flock were lambed indoors in March to facilitate data collection. Lambs were weighed every fortnight from June and weaned at 12 to 14 weeks when they moved to red clover leys or silage aftermath for finishing.

Percentage of lambs recorded from each breed.



Philip and Charlie Whitehouse, Bradley Farm, Gloucestershire
Rams tested: 15 (4 Charollais, 4 Meatlinc, 4 Suffolk, 3 Texel)
Lamb records collected: 1,013

The sheep enterprise is part of a mixed 903ha farm, which also has combinable crops, a suckler herd and 1,000 milking goats in addition to the 1,000 ewe Lleyn flock.

The ewes lamb in February and are finished rapidly on grass and concentrates. Philip is fascinated to see which rams are producing the fastest-growing progeny.

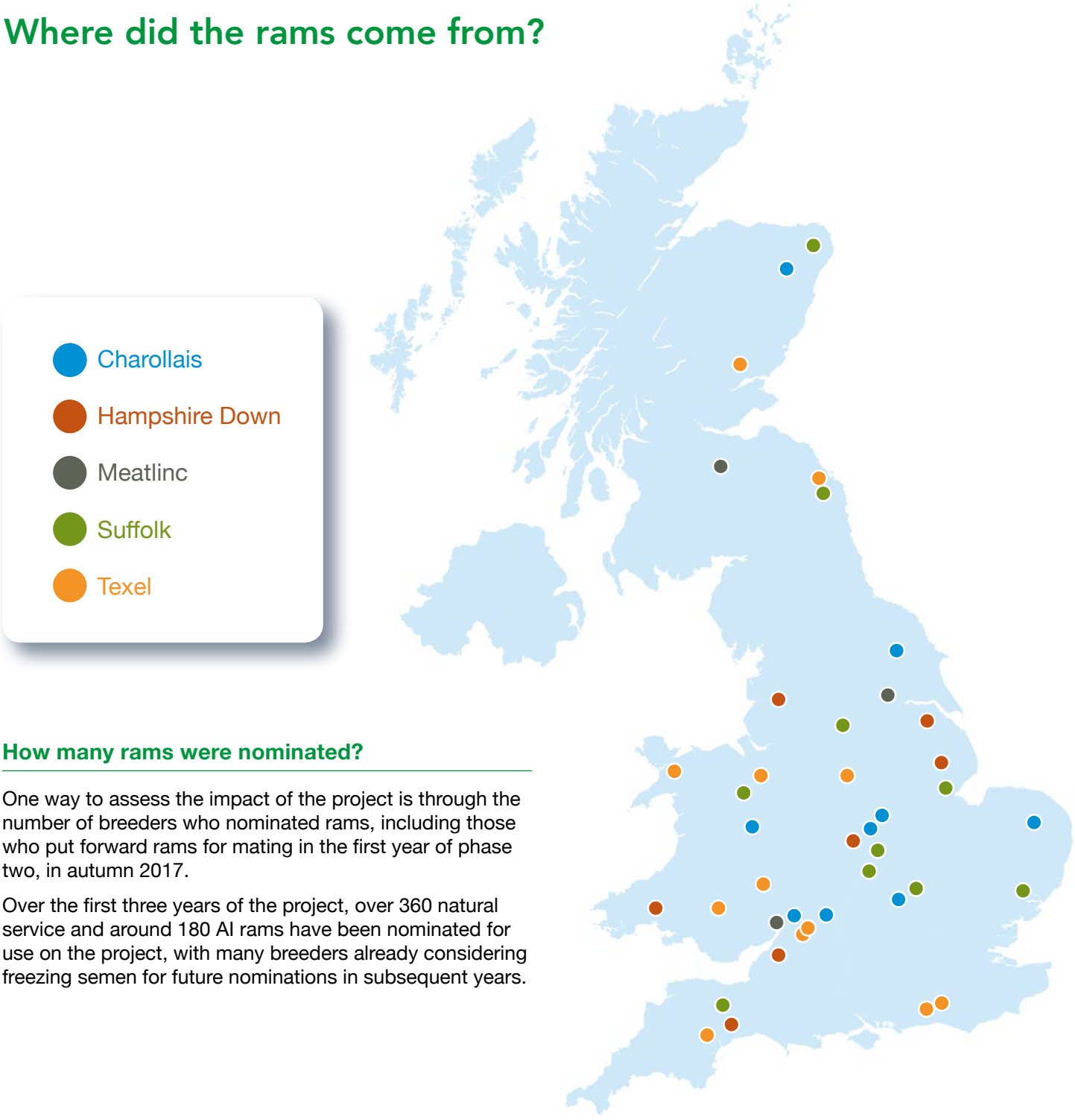
Percentage of lambs recorded from each breed.

Sion and Claire Williams, Beili Ficer Farm, Carmarthenshire
Rams tested: 16 (4 Charollais, 5 Meatlinc, 3 Suffolk, 4 Texel)
Lamb records collected: 942

Sion and Claire Williams have built their 265ha sheep enterprise at Beili Ficer from scratch, utilising technology and benchmarking to drive their "forage bred – performance led" breeding policy.

Aberdale and Aberfield ewes were lambed in February 2016 and March 2017 respectively. All lambs were left entire and finished lambs drawn fortnightly. The first crop of February-born lambs were finished by the end of July in 2016 and the target for March-born lambs (2017) was to finish the majority by early autumn.

Where did the rams come from?



How many rams were nominated?

One way to assess the impact of the project is through the number of breeders who nominated rams, including those who put forward rams for mating in the first year of phase two, in autumn 2017.

Over the first three years of the project, over 360 natural service and around 180 AI rams have been nominated for use on the project, with many breeders already considering freezing semen for future nominations in subsequent years.

	Mating 2015		Mating 2016		Mating 2017	
	Natural Service	AI	Natural Service	AI	Natural Service	AI
Total nominated	103	88	240	70	89	80
Total used	31	8	36	13	39	28
Breakdown of rams used by breed						
Charollais	9	2	10	3	10	2
Hampshire Down	4	1	5	3	4	2
Meatlinc	4	1	3	1	3	1
Suffolk	7	2	9	3	11	9
Texel	7	2	9	3	6	8
Other breeds	Not tested in Phase I		Not tested in Phase I		5	6

Note: Some rams were used in more than one season

How much data was collected and how it has been used

In the first two years, the following records were collected and either incorporated into the new combined breed analysis (CBA) to support the relative ranking of different breeds or to produce brand new EBVs.

Measurement	Number of records	Average	Standard deviation	Use
Birth weight	6,706	4.41kg	1.18kg	Enhance existing EBV in CBA
Lambing ease	7,701			Work on-going within CBA
Eight-week weight	5,801	21.10kg	4.75kg	Enhance existing EBV in CBA
Scan weight^	5,685	29.33kg	6.20kg	Enhance existing EBV in CBA
Muscle depth^	5,578	21.7mm	3.58mm	Enhance existing EBV in CBA
Fat depth^	5,578	2.09mm	1.01mm	Enhance existing EBV in CBA
Abattoir records	5,124 (to date)			Produce new EBVs
Primal weights	1,191 (to date)			Future research
Tenderness	673 (to date)			Future research
DNA sample	5,685			Research opportunity

Note: EBV = estimated breeding values, CBA = combined breed analysis, ^ = measurements taken at 88 days

New carcase trait EBVs

Dr Abbygail Moran at EGENES, Scotland's Rural College (SRUC), has analysed the carcase data. Measurements have been analysed to take into account environmental influences such as sex, rear type, age at slaughter and differences in farm management, teasing out the influence that genetics have upon each trait.

Heritability values were reported for the following traits:

- **Carcase weight = 0.33**
- **Carcase conformation = 0.37**
- **Carcase fat class = 0.55**

Work has been undertaken looking at days to slaughter, but when results were adjusted for carcase weight and fat class, very little genetic variation was observed within the early part of the trial.

Interpretation and a note of caution

Initial results are published in the following tables. These show leading sires within the project over the first two years. The results will be updated in May 2018, with the inclusion of a further 1,500 carcase records for lambs born in late spring 2017 which were finished later in the year.

EBVs for carcase traits are produced in a standalone analysis. For example, the EBV for carcase weight does not currently take into account an animal's scan weight EBV or the, 'genetic group', solutions used in conventional analyses. This will be done in future analyses.

RamCompare results simply rank the performance of animals on the trial. In some breeds, rams in the top 1% for a given trait were nominated, while in other breeds only top 25% animals were nominated. The tables can only rank the performance of those animals on test, so conclusions about breed differences should be made with caution. In many cases, differences in EBVs between leading animals may be small and as always, accuracy values should also be taken into account.

The new carcase trait EBVs will appear as part of genetic evaluations for animals with acceptable accuracy values.

Updated results will be available on:
www.ramcompare.com

Leading rams for eight-week weight EBV (2016/2017)

Interpretation: Standardised value of 100 equals to the average animal born in 2010.

Ram ID	AI/NS*	Breed	Owner/breeder (both if different)	Number of progeny/farms	Standardised value	Accuracy (%)
Handbank PRH1500573	NS	Texel	R M & E A Payne/ Peter Baber	67 / 1	137	90
Stonedge LYN:15:01124	NS	Suffolk	Messrs D M & S Prince	60 / 1	133	86
Whichford First Class C18:15:00001	NS	Suffolk	JB & RL Cook	58 / 1	131	88
Aspley 92W1400386	NS	Hampshire Down	Mr George & Dr Sara Wood	140 / 1	129	92
Tilton 15YPP01267	NS	Charollais	A D & R M Thomas	85 / 1	129	89
Kersey C41:14:00812	NS	Suffolk	Messrs R Partridge & Son Ltd	231 / 1	128	95
Wedderburn Peleus 15WNY02086	AI	Charollais	J D R & J L Corbett/ Barber, Walton, Dunkley & Oughton	72 / 2	128	98
Rugley RamCompare 10P:14:04080	NS	Suffolk	Messrs E A & L Jackson	215 / 1	127	95
Rugley JER1505263	NS	Texel	E A & L Jackson	100 / 1	126	90
Whitehead 64T1500471	NS	Hampshire Down	Robert & Kay Vincent	81 / 1	126	89
Sampfordel HRH:15:00390	NS	Suffolk	Mrs K A Hill	83 / 1	125	87

	Ortum Supersire 05 78X:F49	AI	Suffolk	Messrs Garner & Son/ R J L Park	194 / 3	124	98
	Court 12077 General 73R12077	AI	Hampshire Down	Mike J Adams/ Williams, Brant, Smith & Atkinson	83 / 3	124	94
	Hans Fokker 95 T79:13:095	AI	Suffolk	Mr & Mrs H F Porksen	57 / 2	124	98
	Kersey Nutcracker C41:N22	AI	Suffolk	Messrs R Partridge & Son Ltd/ A J Cony & Partners	158 / 3	123	98
	Wealden HTW1501312	NS	Texel	Mr T R Healy	85 / 1	123	89
	Midhope L20:15:00943	NS	Suffolk	John Key	111 / 1	123	89
	Wedderburn 15WNY02192	NS	Charollais	J D R & J L Corbett	84 / 1	123	87
	Essie H6:14:00612	NS	Suffolk	Mrs Irene Fowlie	150 / 1	123	93
	Stainton Vantage II WPS1400599	AI	Texel	Mr P K Woof/ Claybury Texels	59 / 2	122	97
	Tynewydd MDY1400927	NS	Texel	Mr Deri John Morgan	149 / 1	121	92
	Court 7739 Contender 73R07739	AI	Hampshire Down	Mike J Adams	32 / 1	120	95
	Roxburgh Shot Gun Willie EJR1101108	AI	Texel	Mr John Elliott/ Messrs D M & S Prince	142 / 3	120	98
	Sandyknowe Sole Trader Y13:13:161	NS	Suffolk	Messrs Malcolm M Stewart/ Messrs T C & C A Harding	47 / 1	120	96
	Dalby 14PE03089	NS	Charollais	C R Sercombe	214 / 1	119	94

Notes: BLUP run date: 01/11/17. Analysis type: Combined breed analysis *AI = Artificial insemination, NS = Natural service

Leading rams for scan weight EBV (2016/2017)

Interpretation: Standardised value of 100 equals to the average animal born in 2010.

Ram ID	AI/NS*	Breed	Owner/breeder (both if different)	Number of progeny/farms	Standardised value	Accuracy (%)
Stonedge LYN:15:01124	NS	Suffolk	Messrs D M & S Prince	60 / 1	135	92
Sampfordel HRH:15:00390	NS	Suffolk	Mrs K A Hill	83 / 1	132	93
Whichford First Class C18:15:00001	NS	Suffolk	JB & RL Cook	58 / 1	132	92
Ortum Supersire 05 78X:F49	AI	Suffolk	Messrs Garner & Son/ R J L Park	194 / 3	128	99
Aspley 92W1400386	NS	Hampshire Down	Mr George & Dr Sara Wood	140 / 1	128	96
Rugley RamCompare 10P:14:04080	NS	Suffolk	Messrs E A & L Jackson	215 / 1	127	97
Midhope L20:15:00943	NS	Suffolk	John Key	111 / 1	126	94
Wedderburn Peleus 15WNY02086	AI	Charollais	J D R & J L Corbett/ Barber, Walton, Dunkley & Oughton	72 / 2	126	99
Lavendon Y51:13:082	NS	Suffolk	A J Cony & Partners	58 / 1	125	92
Tilton 15YPP01267	NS	Charollais	A D & R M Thomas	85 / 1	125	94
Kersey Nutcracker C41:N22	AI	Suffolk	Messrs R Partridge & Son Ltd/ A J Cony & Partners	158 / 3	125	98

Handbank PRH1500573	NS	Texel	R M & E A Payne/ Peter Baber	67 / 1	124	95
Wernfawr Magnum 12XEV00325	AI	Charollais	Mr D Curran/ J D R & J L Corbett	184 / 3	124	98
Court 12077 General 73R12077	AI	Hampshire Down	Mike J Adams/ Williams, Brant, Smith & Atkinson	83 / 3	124	97
Kersey C41:14:00812	NS	Suffolk	Messrs R Partridge & Son Ltd	231 / 1	124	96
Whitehead 64T1500471	NS	Hampshire Down	Robert & Kay Vincent	81 / 1	123	94
Lavendon Y51:13:068	NS	Suffolk	A J Cony & Partners	70 / 1	122	92
Vines 3061 EV:1503061	NS	Meatlinc	E R & J E Vines	49 / 1	121	91
Sandyknowe Sole Trader Y13:13:161	NS	Suffolk	Messrs Malcolm M Stewart/ Messrs T C & C A Harding	47 / 1	121	97
Vines 3051 EV:1503051	NS	Meatlinc	E R & J E Vines	91 / 1	120	94
Rugley JER1505263	NS	Texel	E A & L Jackson	100 / 1	120	95
Hans Fokker 95 T79:13:095	AI	Suffolk	Mr & Mrs H F Porksen	57 / 2	119	99
Bould 15CJ01675	NS	Charollais	G Meyrick & Sons	67 / 1	119	92
Bentley Olympic Gold 239:11:120	NS	Suffolk	Messrs T C & C A Harding	66 / 1	119	97
Wealden HTW1501312	NS	Texel	Mr T R Healy	85 / 1	119	94

Notes: BLUP run date: 01/11/17. Analysis type: Combined breed analysis *AI = Artificial insemination, NS = Natural service

Leading rams for muscle depth EBV (2016/2017)

Interpretation: Standardised value of 100 equals to the average animal born in 2010.

Ram ID	AI/NS*	Breed	Owner/breeder (both if different)	Number of progeny/farms	Standardised value	Accuracy (%)
Hans Fokker 95 T79:13:095	AI	Suffolk	Mr & Mrs H F Porksen	57 / 2	154	98
Allison 11681 GA:1511681	NS	Meatlinc	George Allison	89 / 1	153	93
Ortum Supersire 05 78X:F49	AI	Suffolk	Messrs Garner & Son/ R J L Park	194 / 3	151	98
Midhope L20:15:00943	NS	Suffolk	John Key	111 / 1	150	92
Whichford First Class C18:15:00001	NS	Suffolk	JB & RL Cook	58 / 1	148	90
Thorganby 4775 HRF:04775	AI	Meatlinc	H R Fell & Sons Ltd	106 / 3	145	97
Sampfordel HRH:15:00390	NS	Suffolk	Mrs K A Hill	83 / 1	144	92
Vines 3061 EV:1503061	NS	Meatlinc	E R & J E Vines	49 / 1	141	90
Allison 9618 GA:149618	NS	Meatlinc	George Allison	101 / 1	140	94
Court 12077 General 73R12077	AI	Hampshire Down	Mike J Adams/ Williams, Brant, Smith & Atkinson	83 / 3	139	96
Essie H6:14:00612	NS	Suffolk	Mrs Irene Fowlie	150 / 1	136	96

Handbank PRH1500573	NS	Texel	R M & E A Payne/ Peter Baber	67 / 1	135	94
Kersey Nutcracker C41:N22	AI	Suffolk	Messrs R Partridge & Son Ltd/ A J Cony & Partners	158 / 3	134	98
Thorganby 2731 HRF:02731	AI	Meatlinc	H R Fell & Sons Ltd	74 / 3	134	97
Stonedge LYN:15:01124	NS	Suffolk	Messrs D M & S Prince	60 / 1	132	90
Vines 3051 EV:1503051	NS	Meatlinc	E R & J E Vines	91 / 1	132	93
Rugley RamCompare 10P:14:04080	NS	Suffolk	Messrs E A & L Jackson	215 / 1	132	96
Kersey C41:14:00812	NS	Suffolk	Messrs R Partridge & Son Ltd	231 / 1	132	95
Lavendon Y51:13:068	NS	Suffolk	A J Cony & Partners	70 / 1	129	91
Court 13090 Leader 73R13090	AI	Hampshire Down	Mike J Adams	90 / 2	129	95
Court 7739 Contender 73R07739	AI	Hampshire Down	Mike J Adams	32 / 1	128	95
Whitehead 64T1500471	NS	Hampshire Down	Robert & Kay Vincent	81 / 1	127	93
Miserden Valegro AAS1401351	NS	Texel	Mr & Mrs A & S Andrews	75 / 1	127	92
Graylen 24Y1502085	NS	Hampshire Down	Graham & Judith Galbraith	144 / 1	124	92
Aspley 92W1400386	NS	Hampshire Down	Mr George & Dr Sara Wood	140 / 1	124	95

Notes: BLUP run date: 01/11/17. Analysis type: Combined breed analysis *AI = Artificial insemination, NS = Natural service

For more information go to www.signetfbc.co.uk

Leading rams for fat depth EBV – leanest (2016/2017)

Interpretation: Standardised value of 100 equals to the average animal born in 2010.

	Ram ID	AI/NS*	Breed	Owner/breeder (both if different)	Number of progeny/farms	Standardised value	Accuracy (%)
	Stainton Vantage II WPS1400599	AI	Texel	Mr P K Woof/ Claybury Texels	59 / 2	60	98
	Stonedge Wallykazam YDP1500991	NS	Texel	Messrs D M & S Prince	157 / 1	81	95
	Roxburgh Shot Gun Willie EJR1101108	AI	Texel	Mr John Elliott/ Messrs D M & S Prince	142 / 3	83	99
	Penygelli PAP1401307	NS	Texel	Alwyn Phillips	104 / 1	84	94
	Wedderburn 15WNY02192	NS	Charollais	J D R & J L Corbett	84 / 1	85	90
	Kimbolton Voyager PPK1400417	NS	Texel	P & L Phillips	136 / 1	91	96
	Logiedurno 15ZNN12375	NS	Charollais	W C Ingram	99 / 1	93	94
	Rugley RamCompare 10P:14:04080	NS	Suffolk	Messrs E A & L Jackson	215 / 1	94	97
	Penygelli PAP1501802	NS	Texel	Alwyn Phillips	67 / 1	96	92
	Logiedurno Navigator 13ZNN07239	NS	Charollais	W C Ingram/ J & C Barber and AJ & MJ Gregory	89 / 1	97	97

Notes: BLUP run date: 01/11/17. Analysis type: Combined breed analysis *AI = Artificial insemination, NS = Natural service

For more information go to www.signetfbc.co.uk

Leading rams for fat depth EBV – fattest (2016/2017)

Interpretation: Standardised value of 100 equals to the average animal born in 2010.

Ram ID	AI/NS*	Breed	Owner/breeder (both if different)	Number of progeny/farms	Standardised value	Accuracy (%)
Graylen 24Y1502085	NS	Hampshire Down	Graham & Judith Galbraith	144 / 1	161	93
Court 13090 Leader 73R13090	AI	Hampshire Down	Mike J Adams	90 / 2	136	96
Midhope L20:15:00943	NS	Suffolk	John Key	111 / 1	135	93
Ortum Supersire 05 78X:F49	AI	Suffolk	Messrs Garner & Son/ R J L Park	194 / 3	134	99
Thorganby 2731 HRF:02731	AI	Meatlinc	H R Fell & Sons Ltd	74 / 3	132	97
Court 12077 General 73R12077	AI	Hampshire Down	Mike J Adams/ Williams, Brant, Smith & Atkinson	83 / 3	131	96
Whitehead 64T1500471	NS	Hampshire Down	Robert & Kay Vincent	81 / 1	128	93
Wedderburn Peleus 15WNY02086	AI	Charollais	J D R & J L Corbett/ Barber, Walton, Dunkley & Oughton	72 / 2	128	99
Sampfordel HRH:15:00390	NS	Suffolk	Mrs K A Hill	83 / 1	126	93
Kelsey 13249 Lysander 18U13249	NS	Hampshire Down	D Smith & J Atkinson	97 / 1	126	94

Notes: BLUP run date: 01/11/17. Analysis type: Combined breed analysis *AI = Artificial insemination, NS = Natural service

For more information go to www.signetfbc.co.uk

Leading rams for carcase weight EBV (2016/2017)

Interpretation: The EBV for carcase weight is expressed in kilograms (kg). A ram with an EBV for carcase weight of +1 has the genetic potential to produce progeny that will be on average 0.5kg heavier at a constant age than a ram with an EBV of 0. Standardised value of 100 equals to the average ram in 2017.

Ram ID	AI/NS*	Breed	Owner/breeder (both if different)	Number of progeny/ farms	Carcase weight EBV Range: -1.72–2.00	Accuracy (%)	Standardised value
Handbank PRH1500573	NS	Texel	R M & E A Payne/ Peter Baber	67 / 1	2.00	87	151
Hans Fokker 95 T79:13:095	AI	Suffolk	Mr & Mrs H F Porksen	57 / 2	1.34	81	132
Wedderburn Peleus 15WNY02086	AI	Charollais	J D R & J L Corbett/ Barber, Walton, Dunkley & Oughton	72 / 2	1.29	84	131
Roxburgh Shot Gun Willie EJR1101108	AI	Texel	Mr John Elliott/ Messrs D M & S Prince	142 / 3	1.25	88	130
Court 7739 Contender 73R07739	AI	Hampshire Down	Mike J Adams	32 / 1	1.04	80	125
Penygelli PAP1501802	NS	Texel	Alwyn Phillips	67 / 1	0.97	78	123
Whitehead 64T1500471	NS	Hampshire Down	Robert & Kay Vincent	81 / 1	0.97	86	122
Dalby Malachite 12PE01501	AI	Charollais	C R Sercombe/ Walton, Gregory, Moseley & Greenow	144 / 3	0.86	92	119
Cannahars 15KF00715	NS	Charollais	H E G Davies/ R S & J A Gregory	60 / 1	0.84	85	119
Court 12077 General 73R12077	AI	Hampshire Down	Mike J Adams/ Williams, Brant, Smith & Atkinson	83 / 3	0.83	85	119
Sandyknowe Sole Trader Y13:13:161	NS	Suffolk	Messrs Malcolm M Stewart/ Messrs T C & C A Harding	47 / 1	0.81	74	118

Allison 11681 GA:1511681	NS	Meatlinc	George Allison	89 / 1	0.76	88	117
Micklehills 14ZWA03355	NS	Charollais	Ms Victoria Sercombe	254 / 1	0.76	80	117
Foulrice On RamCompare 14DG04690	NS	Charollais	C W Marwood & Son	217 / 1	0.75	95	117
Penygelli PAP1401307	NS	Texel	Alwyn Phillips	104 / 1	0.60	90	113
Dalby 14PE03089	NS	Charollais	C R Sercombe	214 / 1	0.58	82	112
Glyncoch Monster Munch 12XCA00275	NS	Charollais	Mr Adrian Davies	70 / 1	0.54	88	111
Tilton 15YPP01267	NS	Charollais	A D & R M Thomas	85 / 1	0.49	85	110
Kersey C41:14:00812	NS	Suffolk	Messrs R Partridge & Son Ltd	231 / 1	0.49	86	110
Stonedge Wallykazam YDP1500991	NS	Texel	Messrs D M & S Prince	157 / 1	0.42	93	108
Rugley JER1505263	NS	Texel	E A & L Jackson	100 / 1	0.35	88	106
Tynewydd MDY1400927	NS	Texel	Mr Deri John Morgan	149 / 1	0.34	93	105
Yarcombe 141320 Quadrant 30N1401320	NS	Hampshire Down	Messrs H C Derryman & Sons	233 / 1	0.32	86	105
Wedderburn 15WNY02192	NS	Charollais	J D R & J L Corbett	84 / 1	0.27	87	104
Logiedurno 15ZNN12375	NS	Charollais	W C Ingram	99 / 1	0.26	85	103

Notes: BLUP run date: 01/11/17. Analysis type: Carcase traits *AI = Artificial insemination. NS = Natural service

Leading rams for carcase conformation EBV (2016/2017)

Interpretation: Carcase conformation EBVs indicate genetic potential for conformation and units of measurement are based on a 15 point scale. Animals with a high positive value have the genetic potential to produce superior good conformation. Standardised value of 100 equates to the average ram in 2017.

Ram ID	AI/NS*	Breed	Owner/breeder (both if different)	Number of progeny/ farms	Carcase weight EBV Range: -2.43–2.64	Accuracy (%)	Standardised value
Elkstone HME1501742	NS	Texel	Mr Matt Hobbs	57 / 1	2.64	93	147
Roxburgh Shot Gun Willie EJR1101108	AI	Texel	Mr John Elliott/ Messrs D M & S Prince	142 / 3	2.56	96	145
Stonedge Wallykazam YDP1500991	NS	Texel	Messrs D M & S Prince	157 / 1	2.32	97	141
Penygelli PAP1501802	NS	Texel	Alwyn Phillips	67 / 1	2.18	91	138
Handbank PRH1500573	NS	Texel	R M & E A Payne/ Peter Baber	67 / 1	2.11	95	137
Foulrice On RamCompare 14DG04690	NS	Charollais	C W Marwood & Son	217 / 1	1.60	98	127
Whitehead 64T1500471	NS	Hampshire Down	Robert & Kay Vincent	81 / 1	1.50	95	126
Stainton Vantage II WPS1400599	AI	Texel	Mr P K Woof/ Claybury Texels	59 / 2	1.36	94	123
Miserden AAS1401255	NS	Texel	Mr & Mrs A & S Andrews	167 / 1	1.32	92	122
Sandyknowe Sole Trader Y13:13:161	NS	Suffolk	Messrs Malcolm M Stewart/ Messrs T C & C A Harding	47 / 1	1.04	89	117
Tynewydd MDY1400927	NS	Texel	Mr Deri John Morgan	149 / 1	0.86	97	113

Court 12077 General 73R12077	AI	Hampshire Down	Mike J Adams/ Williams, Brant, Smith & Atkinson	83 / 3	0.84	94	113
Gaynes Major CMG06129	AI	Texel	Gaynes Park Farm Ltd/ Trinidad Investments Ltd	181 / 3	0.83	98	113
Wedderburn Peleus 15WNY02086	AI	Charollais	J D R & J L Corbett/ Barber, Walton, Dunkley & Oughton	72 / 2	0.83	94	113
Dalby Malachite 12PE01501	AI	Charollais	C R Sercombe/ Walton, Gregory, Moseley & Greenow	144 / 3	0.77	97	112
Lowereye 13ZVY00706	NS	Charollais	N Oughton	126 / 1	0.76	95	111
Bould 15CJ01675	NS	Charollais	G Meyrick & Sons	67 / 1	0.67	92	110
Penygelli PAP1401307	NS	Texel	Alwyn Phillips	104 / 1	0.67	97	110
Yarcombe 141320 Quadrant 30N1401320	NS	Hampshire Down	Messrs H C Derryman & Sons	233 / 1	0.65	95	109
Allison 9618 GA:149618	NS	Meatlinc	George Allison	101 / 1	0.64	96	109
Thorganby 4746 HRF:04746	NS	Meatlinc	H R Fell & Sons Ltd	86 / 1	0.60	96	109
Thorganby 4775 HRF:04775	AI	Meatlinc	H R Fell & Sons Ltd	106 / 3	0.57	97	108
Cannahars 15KF00715	NS	Charollais	H E G Davies/ R S & J A Gregory	60 / 1	0.45	94	106
Glyncoch Monster Munch 12XCA00275	NS	Charollais	Mr Adrian Davies	70 / 1	0.27	95	102
Wedderburn 15WNY02192	NS	Charollais	J D R & J L Corbett	84 / 1	0.27	95	102

Notes: BLUP run date: 01/11/17. Analysis type: Carcase traits *AI = Artificial insemination, NS = Natural service

Leading rams for carcase fat class EBV – leanest (2016/2017)

Interpretation: Carcase fat class EBVs indicate genetic potential to influence fat class. Animals with low negative values have the genetic potential to produce leaner carcases, positive values indicate fatter carcases. Standardised value of 100 equates to the average ram in 2017.

Ram ID	AI/NS*	Breed	Owner/breeder (both if different)	Number of progeny/ farms	Fat class EBV Range: -2.44–3.47	Accuracy (%)	Standardised value
Stainton Vantage Ii WPS1400599	AI	Texel	Mr P K Woof/ Claybury Texels	59 / 2	-2.44	92	64
Stonedge Wallykazam YDP1500991	NS	Texel	Messrs D M & S Prince	157 / 1	-2.30	97	66
Rugley Ramcompare 10P:14:04080	NS	Suffolk	Messrs E A & L Jackson	215 / 1	-1.80	97	73
Gaynes Major CMG06129	AI	Texel	Gaynes Park Farm Ltd/ Trinidad Investments Ltd	181 / 3	-1.41	97	79
Penygelli PAP1501802	NS	Texel	Alwyn Phillips	67 / 1	-1.32	88	80
Penygelli PAP1401307	NS	Texel	Alwyn Phillips	104 / 1	-1.27	95	81
Rugley JER1505263	NS	Texel	E A & L Jackson	100 / 1	-1.21	94	81
Roxburgh Shot Gun Willie EJR1101108	AI	Texel	Mr John Elliott/ Messrs D M & S Prince	142 / 3	-1.21	94	82
Drinkstone Union PJP1304727	NS	Texel	R J L Park/ Finlay McGowan	113 / 1	-1.19	95	82
Wedderburn 15WNY02192	NS	Charollais	J D R & J L Corbett	84 / 1	-1.11	93	83

Notes: BLUP run date: 01/11/17. Analysis type: Carcase traits *AI = Artificial insemination, NS = Natural service

For more information go to www.signetfbc.co.uk

Leading rams for carcase fat class EBV – fattest (2016/2017)

Interpretation: Carcase fat class EBVs indicate genetic potential to influence fat class. Animals with low negative values have the genetic potential to produce leaner carcases, positive values indicate fatter carcases. Standardised value of 100 equates to the average ram in 2017.

Ram ID	AI/NS*	Breed	Owner/breeder (both if different)	Number of progeny/ farms	Fat class EBV Range: -2.44–3.47	Accuracy (%)	Standardised value
Court 12077 General 73R12077	AI	Hampshire Down	Mike J Adams/ Williams, Brant, Smith & Atkinson	83 / 3	3.47	92	147
Court 7739 Contender 73R07739	AI	Hampshire Down	Mike J Adams	32 / 1	3.10	89	142
Aspley 92W1400386	NS	Hampshire Down	Mr George & Dr Sara Wood	140 / 1	2.57	95	134
Court 13090 Leader 73R13090	AI	Hampshire Down	Mike J Adams	90 / 2	2.56	93	134
Yarcombe 141320 Quadrant 30N1401320	NS	Hampshire Down	Messrs H C Derryman & Sons	233 / 1	2.54	93	134
Whitehead 64T1500471	NS	Hampshire Down	Robert & Kay Vincent	81 / 1	2.46	93	133
Sandyknowe Sole Trader Y13:13:161	NS	Suffolk	Messrs Malcolm M Stewart/ Messrs T C & C A Harding	47 / 1	2.04	86	127
Sampfordel HRH:15:00390	NS	Suffolk	Mrs K A Hill	83 / 1	1.75	93	123
Hans Fokker 95 T79:13:095	AI	Suffolk	Mr & Mrs H F Porksen	57 / 2	1.46	90	119
Kelsey 13249 Lysander 18U13249	NS	Hampshire Down	D Smith & J Atkinson	97 / 1	1.00	95	112

Notes: BLUP run date: 01/11/17. Analysis type: Carcase traits *AI = Artificial insemination, NS = Natural service

For more information go to www.signetfbc.co.uk

Leading rams for overall carcase merit (2016/2017)

Interpretation: The index for carcase merit provides a ranking of RamCompare sires that takes into account EBVs for carcase weight, carcase conformation and carcase fat class. The index serves as a guide towards the genetic merit of sires used in a typical commercial flock. Actual financial performance will depend on the system, target market and seasonal price fluctuations.

Ram ID	AI/NS*	Breed	Owner/breeder (both if different)	Carcase weight EBV Range: -1.72–2.00	Carcase conformation EBV Range: -2.43–2.64	Carcase fat EBV Range: -2.44–3.47	Carcase merit index Range: -10.75–13.96	Accuracy for carcase merit index (%)
Handbank PRH1500573	NS	Texel	R M & E A Payne/ Peter Baber	2.00	2.11	-0.67	13.96	89
Roxburgh Shot Gun Willie EJR1101108	AI	Texel	Mr John Elliott/ Messrs D M & S Prince	1.25	2.56	-1.21	10.90	90
Penygelli PAP1501802	NS	Texel	Alwyn Phillips	0.97	2.18	-1.32	8.98	80
Wedderburn Peleus 15WNY02086	AI	Charollais	J D R & J L Corbett/ Barber, Walton, Dunkley & Oughton	1.29	0.83	0.02	8.32	86
Hans Fokker 95 T79:13:095	AI	Suffolk	Mr & Mrs H F Porksen	1.34	-0.09	1.46	6.83	83
Whitehead 64T1500471	NS	Hampshire Down	Robert & Kay Vincent	0.97	1.50	2.46	6.72	87
Stonedge Wallykazam YDP1500991	NS	Texel	Messrs D M & S Prince	0.42	2.32	-2.30	6.67	94
Foulrice On RamCompare 14DG04690	NS	Charollais	C W Marwood & Son	0.75	1.60	0.02	6.61	95
Dalby Malachite 12PE01501	AI	Charollais	C R Sercombe/ Walton, Gregory, Moseley & Greenow	0.86	0.77	0.31	5.90	93
Sandyknowe Sole Trader Y13:13:161	NS	Suffolk	Messrs Malcolm M Stewart/Messrs T C & C A Harding	0.81	1.04	2.04	5.41	77
Cannahars 15KF00715	NS	Charollais	H E G Davies/ R S & J A Gregory	0.84	0.45	0.98	5.17	87

Penygelli PAP1401307	NS	Texel	Alwyn Phillips	0.60	0.67	-1.27	5.02	91
Court 12077 General 73R12077	AI	Hampshire Down	Mike J Adams/ Williams, Brant, Smith & Atkinson	0.83	0.84	3.47	4.78	87
Elkstone HME1501742	NS	Texel	Mr Matt Hobbs	0.10	2.64	0.41	4.52	85
Stainton Vantage II WPS1400599	AI	Texel	Mr P K Woof/ Claybury Texels	0.23	1.36	-2.44	4.43	85
Micklehills 14ZWA03355	NS	Charollais	Ms Victoria Sercombe	0.76	0.05	0.67	4.29	82
Tynewydd MDY1400927	NS	Texel	Mr Deri John Morgan	0.34	0.86	-0.83	3.77	93
Glyncoch Monster Munch 12XCA00275	NS	Charollais	Mr Adrian Davies	0.54	0.27	-0.05	3.74	89
Dalby 14PE03089	NS	Charollais	C R Sercombe	0.58	0.03	-0.27	3.67	83
Court 7739 Contender 73R07739	AI	Hampshire Down	Mike J Adams	1.04	-0.87	3.10	3.66	82
Gaynes Major CMG06129	AI	Texel	Gaynes Park Farm Ltd/Trinidad Investments Ltd	0.26	0.83	-1.41	3.52	94
Rugley JER1505263	NS	Texel	E A & L Jackson	0.35	0.25	-1.21	3.15	90
Kersey C41:14:00812	NS	Suffolk	Messrs R Partridge & Son Ltd	0.49	0.06	0.43	3.03	88
Allison 11681 GA:1511681	NS	Meatlinc	George Allison	0.76	-1.15	0.42	2.76	89
Wedderburn 15WNY02192	NS	Charollais	J D R & J L Corbett	0.27	0.27	-1.11	2.74	88

Notes: BLUP run date: 01/11/17. Analysis type: Carcase traits * *AI = Artificial insemination, NS = Natural service

Changes to sheep genetic evaluations

RamCompare and the combined breed analysis

The launch of RamCompare results coincides with a major change to the way terminal sire evaluations are delivered in the UK, with the launch of the CBA.

The CBA will evaluate all terminal sire breeds together in a single best linear unbiased prediction (BLUP) run, with results for each breed reported individually. It will deliver a series of enhancements, including more regular BLUP runs and the ability to assess the genetic merit of crossbred animals.

EBVs will change, with a new base being set for each breed and the provision of a series of new EBVs derived from computed tomography (CT) data, including spine length, a predictor of intramuscular fat and CT-derived eye muscle area.

Weight-adjusted traits

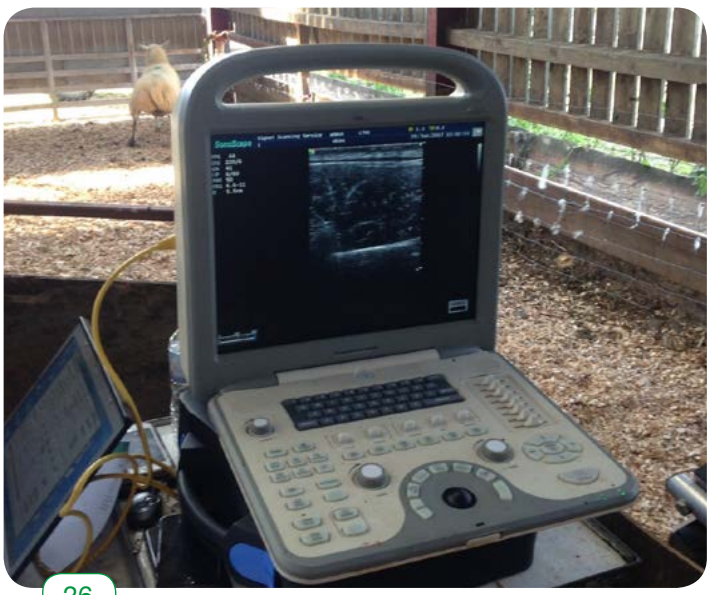
One of the biggest changes with CBA is the provision of weight-adjusted EBVs for existing traits like muscle and fat depth. Historically, traits like muscle depth have been adjusted for age within the analysis to identify those lambs that will lay down the most muscle at a certain age, regardless of 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

Although breeders can already select for growth rate using the scan weight EBV, this new approach enables breeders to select for muscling independently from growth ie the ability to compare levels of muscling (and fat) at a fixed weight, rather than a fixed age.

The new approach is helpful for commercial producers as lambs tend to be drawn on their finish (fat) and weight, not their age.



The next steps for RamCompare

RamCompare will continue for the next three production years (2017/18, 2018/19 and 2019/20) and will involve eight farms in England, Wales and Scotland, plus one research farm in Northern Ireland. This means that more data can be gathered on hard-to-measure traits and rams from more breeds can be tested.

The work in Northern Ireland will link RamCompare to the equivalent scheme in Ireland – Sheep Ireland's Central Progeny Test. The progeny from Irish and UK rams will be monitored and the data analysed through both genetic evaluation systems, which will build links between the two systems. Some of the lambs will be assessed using Centre of Innovation Excellence in Livestock (CIEL)-funded feed efficiency equipment to understand if variation between feed intake can be detected in growing lambs.

Why should pedigree breeders get involved?

RamCompare is a partnership where the sharing of knowledge benefits all those involved.

RamCompare has highlighted to commercial producers:

- The performance achieved by the progeny of high genetic merit rams on commercial, grass and forage-based diets
- How to exploit genetic differences between rams from different breeds
- The financial impact of high-index rams and how to find them

For pedigree producers, RamCompare provides a unique opportunity to promote the genetic merit of their flocks.

Alwyn Phillips
Pedigree breeder

Alwyn has actively selected high-performing genetics within his Penygelli Texel flock for over three decades. In the first year of the project, Alwyn drove over 500 miles to get his ram onto a RamCompare farm.

"RamCompare provides a great way for flocks to benchmark performance in an unbiased, commercial environment" says Alwyn. "Our flock is reared on forage and rams aren't overfed. RamCompare provides an alternative shop window to show customers what our genetics can do."

James Barker
Pedigree breeder

James supplied rams and semen to link his Signet-recorded Suffolk flock to the project.

"Sheep producers must focus on matching the right genetics to their production system and this trial is a great way to see what the leading breeding lines can deliver. We sell rams directly from the farm and our involvement in RamCompare is a key part of our marketing strategy."

Janet Hill
Breed Association

"We believe the Hampshire Down breed has economically important genes for commercial sheep production, particularly for systems seeking fast-finishing lambs with a good carcase" says Janet Hill, Breed Secretary. "RamCompare gives our breed the opportunity to demonstrate what it is capable of delivering and we have actively encouraged our breeders to support the trial."

How to get involved

Any performance-recorded terminal sire breeders can nominate rams or semen for RamCompare. The closing date for nominations of rams and semen for use next season is Monday 5 March 2018.

Semen available

Breeders have the opportunity to obtain frozen semen from some of the rams already tested during the first couple of years of the RamCompare project. This semen is being offered to breeders free of charge, subject to terms and conditions.

Semen is available from:

Texel

Kimbolton Voyager
PPK1400417 (ARR/ARR)

Charollais

Foulrice On RamCompare
14DG04690 (ARR/ARR)

Suffolk

Rugley RamCompare
10P:14:04080 (ARR/ARR)

Hampshire Down

Cour[illegible]ader
73R13090

Go to **basco.org/sheep** to see their most up-to-date EBVs.

For more details and copy of the terms and conditions, interested breeders should contact:

Bridget Lloyd (**bridget.lloyd@ahdb.org.uk**) or **Signet** on **024 7647 8829** or **signet@ahdb.org.uk**

A list of all the rams tested or on-test can be found at **www.ramcompare.com**

Follow **@ramcompare** on Twitter for regular updates.

RamCompare is a partnership that brings together many organisations throughout the supply chain to help take genetic evaluation in the UK sheep industry forward. All of the partners have had an important role in getting RamCompare to this point.

FARMERS

Antony Pearce
Moat Farm
Buckinghamshire

Duncan Nelless
Thistleyhaugh
Northumberland

Ian Robertson
Chawton Park Farm
Hampshire

Philip & Charlie Whitehouse
Bradley Farm
Gloucestershire

Sion Williams
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