Collecting weight and body condition score data for mature ewes

Most maternal breeding programmes aim to enhance the economic output of the ewe, but few are selecting to optimise ewe efficiency by taking into account input costs over the ewe's lifetime.

We know that smaller ewes tend to have lower feed requirements and are capable of being stocked more densely, yet most selection programmes lead to an increase in ewe mature size, through the selection of breeding lines that produce faster growing lambs.

Measurements of ewe mature size are needed if we are to create breeding values and breeding indexes that enable the selection of more efficient ewes.

Don't we have mature size EBVs already?

We do have mature size EBVs, however these are actually based on shearling weights pre-tupping. They are a very useful starting point in helping to understand mature size, but this trait tends to be under recorded and only provides a single measure during an animal's lifetime.

Modern approaches to electronic data capture enable producers to weigh ewes on a more regular basis and so Signet has developed systems to capture this information.

What data should we collect?

The following are required fields of information:
- Ewe identity – as held by Signet
- Sex
- Breed
- Flock identifier (ideally flock code)
- Weight in kilogrammes (to nearest kg)
- Body condition score (optional, but very useful)
- Weigh date (dd/mm/yyyy)
- Management group (numeric)

What is "management group"?

Breeders should use "management group" to identify animals that have been treated differently up to the point of weighing – typically this will mean ewes on different grazing or under show management. It is the same principle that Signet use for lambs when weighed at 8 weeks of age and scanning time. Simply put "1" if they are all in the same group.

When should I weigh?

Signet will take the weights whenever convenient to collect them. It is recognized that ewes will be lighter at weaning and heavier later in the season, but as animals within a flock are treated as contemporaries, future analyses will be able to handle this.

We realise that ewes that have reared singles will be heavier than those that reared twins; again the database should know this information and be able to adjust for it.

Many flocks tend to weigh at weaning/as lambs are being drawn and again later in the season prior to mating.

Why is Body Condition Score important?

The Body Condition Score (BCS) of the ewe indicates her fatness/thinness at any given weight – and gives us more information than weight alone.

For example, two ewes might both weight 65kg, but one is smaller and fatter at BCS 4 and another might be a thinner, large framed ewe at BCS 1.5.

Information about BCS helps to determine the relative difference between them and has a marked impact on ewe performance. In Signet's UK beef evaluations and New Zealand's sheep evaluations it is starting to be assessed as a trait in its own right.

Does it matter if I can't supply Body Condition Scores?

Signet will still collate ewe weights in the absence of Body Condition Score – but for the reasons listed above, it is a very useful piece of information.

Flocks that don't routinely collect Body Condition Score are advised to try and obtain the measure on their ewe flock at least once during the season to give us an idea of their relative ranking for this trait.

A – Transverse processes
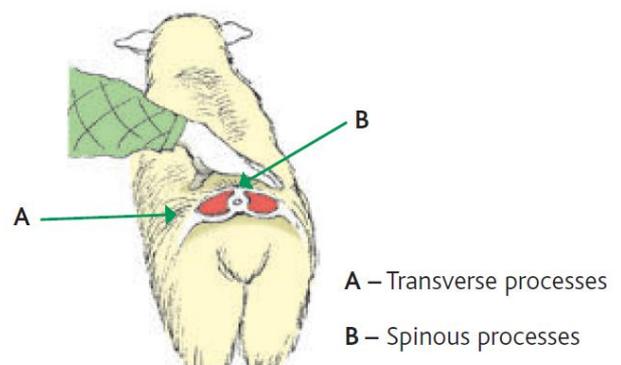
B – Spinous processes

Can we supply historic data?

Yes – providing it is in the correct electronic format and accurate. Please check data before sending it to ensure that a ewe standing close to the panel reader hasn't been accidentally assigned the weight of a lamb on the scales.

Does it matter if the historic data doesn't include Body Condition Score?

It is better to have the weight data without this additional information than to exclude it from analyses – so please send it anyway.

What is the correct format for the data?

The data should be provided in a spreadsheet as follows, where S500 = Ewe Mature Weight and S501 = Body Condition Score. Paper records will not be accepted.

SHEEP ID	SEX	BREED	FLOCKCODE	SYSTEM VARIABLE CODE	MEASUREMENT	MEASUREMENT DATE	MANAGEMENT GROUP
1932/16/00001	F	LLEYN	1932	S500	65	01/07/2018	1
1932/16/00001	F	LLEYN	1932	S501	3	01/07/2018	1
1932/16/00002	F	LLEYN	1932	S500	57	01/07/2018	1
1932/16/00002	F	LLEYN	1932	S501	2	01/07/2018	1
1932/16/00003	F	LLEYN	1932	S500	66	01/07/2018	1
1932/16/00003	F	LLEYN	1932	S501	3.5	01/07/2018	1
1932/16/00004	F	LLEYN	1932	S500	71	01/07/2018	1
1932/16/00004	F	LLEYN	1932	S501	4	01/07/2018	1
1932/16/00005	F	LLEYN	1932	S500	65	01/07/2018	1
1932/16/00005	F	LLEYN	1932	S501	3	01/07/2018	1

- Each trait is shown here in different colours to demonstrate each ewe has two records, one for weight and the other for BCS.

When will the data be analysed to produce EBVs?

Work to determine the genetic parameters for these traits will start once sufficient data, ideally 3,000 (multiple) animal records per breed, has been collected – so the sooner we can get the records the better.

If you have any queries please contact Signet directly.

Appendix 1. How to body condition score ewes

It is quick and easy to make body condition score (BCS) assessments. Place a hand over and around the backbone and loin area behind the last rib to feel the amount of fat cover and muscle mass.

Feel for the sharpness of the spinous and transverse processes coming out from the spine. Use the same hand to BCS all the ewes to reduce variability which can occur using both hands.

The scoring scale used is 1 to 5, with 1 being thin and 5 being very fat. Half scores such as 2.5 or 3.5 can be used.

Score 1
The spinous and transverse processes are prominent and sharp. The fingers can be pushed easily below the transverse bone and each process can be felt. The loin is thin with no fat cover.
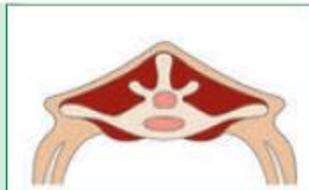
Score 2
The spinous processes are prominent but smooth, individual processes being felt only as corrugations. The transverse processes are smooth and rounded, but it is still possible to press fingers underneath. The loin muscle is a moderate depth but with little fat cover.
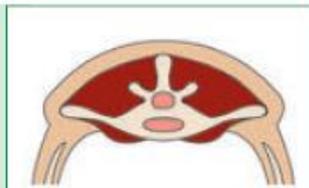
Score 3
The spinous processes are smooth and rounded; the bone is only felt with pressure. The transverse processes are also smooth and well-covered, hard pressure is required with the fingers to find the ends. The loin muscle is full and with moderate fat cover.

Score 4
The spinous processes are only detectable as a line. The ends of the transverse processes cannot be felt. The loin muscles are full and rounded and have a thick covering of fat.

Score 5
The spinous and transverse processes cannot be detected even with pressure; there is a dimple in the fat layers where the processes should be. The loin muscles are very full and covered with very thick fat.