

Condition Score Mike Coffey & Geoff Simm Holstein Journal – November 2001, p71

Condition Score

Condition Score (CS) is used widely and routinely by many farmers for nutritional management purposes. More recently, CS has been identified as a useful trait in selection indexes since it is known to be associated with fertility. In this article we discuss the value of CS and define what is being measured when we condition score cows.

Method

The exact method of condition scoring cows varies around the world. Some systems use a 1 to 5 scale and some a 1 to 9 scale. It does not really matter what scale is used as long as the biological extremes that are given upper and lower values are consistent across scoring methods. The method originally described by Basil Lowman in 1976 uses a scale ranging from 1, representing very thin, to 5 representing obese. Sometimes, scores are given by experienced operators to a quarter of a unit, effectively creating a scale of 20 divisions. This is what we use at Langhill and this has been adapted by HUKI to a 1 to 9 scale to fit in with the Type Classification Scheme scoring methods.

The main purpose of condition scoring is to assess the amount of external fat cover over the loin area and around the tail head. At Langhill, we both look at and feel each cow in order to give a score. HUK field officers use visual appraisal only since it is impractical to touch every cow. Each method has its merits and is related to the use that the data is put. At Langhill we need exact measurements for research purposes, whereas HUK members require large volumes of easily obtained data for genetic evaluation of bulls. However, for whatever use condition score is collected, the scoring method needs to be objective, relate to body fat and be repeatable. Fortunately, condition scoring using the tail head or the loin has been demonstrated to be useful in these regards.

CS versus body fat

The value of CS is that it gives a good estimate of the total body fat content of cows. This is useful because dairy cows utilise body fat as a nutritional buffer for use when they can not, or will not, eat as much food daily as they require. There are formulae that have been derived to relate CS to body fat for cows of a given

liveweight (LWT) and one is given below, taken from a research paper published in 1993 for Holstein-Friesian cows (Gibb and Ivings, 1993). NB this relates to CS range of 1 to 5.

Fat(*kg*)? (41.9 * *CS*)? (0.292 * *LWT*)? 162.5

For a cow weighing 650 kg and in CS 3, the total amount of fat is therefore expected to be 153 kg. Of course, CS is a proportional measure because a cow of 700 kg LWT at the same CS of 3 is expected to have a fat content of 168 kg. This indicates the usefulness of considering both LWT and CS together in the nutritional management of dairy cows. A small cow in low body condition has a lot less body fat to utilise than a big cow in low body condition!

Using the formula above, the following table can be derived for a cow of 650 kg LWT.

Scoring System		Expected	Body Fa	at
		Content		
1-5	1-9	kg	%	
1	1	69	10.7	
1.5	2	90	13.9	
2	3	111	17.1	
2.5	4	132	20.3	
3	5	153	23.5	
3.5	6	174	26.8	
4	7	195	30.0	
4.5	8	216	33.2	
5	9	237	36.4	

This table shows that the modern dairy cow has substantial amounts of body fat, especially at high CS levels. This fat is used regularly and quite normally in sustaining yield at a time when nutrients are scarce for a variety of reasons. However, when the use of body reserves becomes significant then, potentially, the welfare of the cow could be compromised.

In the next article, we will look at the relationship between CS and fertility and how we might prevent problems associated with CS loss occurring in future through new selection tools.