

BODY CONDITION SCORING AS A TOOL FOR DAIRY COW MANAGEMENT

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Body condition scoring is the subjective method of assessing the amount of metabolizable energy stored in fat and muscle (body reserves) in a live animal. It is a useful tool for quantifying the extent to which farm animals are affected by nutrition, disease or other environmental factors. Traditionally, monitoring the body reserves in livestock has involved measuring changes in live weight or heart girth, which were largely influenced by gut fill, pregnancy and state of tissue hydration. Condition score can be assessed independent of gut fill and pregnancy status and thus helps farmers to compare the condition of their livestock with recommended targets and manage their feeding programs effectively.

The relationship between condition score and body fatness has been established from data on cows slaughtered at different body condition scores. Studies have shown that among animals of same age and sex, live weight, carcass weight and edible tissue yield are highly correlated with condition score. Thus those involved in marketing of livestock would find condition scoring useful in estimating expected saleable meat. Dairy cattle generally deposit more fat internally than do beef cattle and therefore, at a given body score, dairy cows tend to have more fat reserves than beef cattle.

The condition scoring system

Condition scoring was originally started in Australia for assessing sheep fatness; it was subsequently introduced into the UK for the same purpose, and later it was extended to include cattle also (Edmonson et al., 1989). The East of Scotland College of Agriculture produced a handbook for describing a method for determining the body condition score of beef cows. Since then, several researchers have modified or redesigned the scoring system, with its eventual application for scoring the body condition of dairy cattle.

Several guidelines for condition scoring of dairy cows are available. Many of them are difficult to apply into the present dairy farming practice of our state. Scoring using these guidelines require keen observation and rigorous training. Some of the methods are developed for purebred exotic dairy cows with very high milk production while some others are exclusively applicable to Zebu cattle.

The system of scoring described here has been claimed to be applicable to both exotic dairy cows and Zebu cattle. It is relatively simple with fewer body locations requiring observation and is given in Figure 1. Nevertheless, training and experience in scoring large number of animals in different ranges of body scores are imperative to achieve accuracy and consistency in using this system.

The condition scoring is done by assessing five key body locations of the cow.

1. The area between the tail and pin bones: This is the area where it's easiest to appreciate if cows are starting to deposit adipose tissue. The area should be differentiated as sunken, slightly sunken or filled in.
2. The inside of the pin bones described as hollow or not hollow.
3. The backbone described as either a bumpy ridge or not a bumpy ridge.
4. The hips
5. The depression between the hip and pin bones which should be differentiated as 'U' shaped, shallow or flat.

Target condition scores

For optimum milk output and reproductive efficiency, the following body condition score targets should be achieved:

1. At calving, all cows should have the body

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condition score between 4.5 and 5.5

2. During early lactation, there should not be loss of more than one condition score.

Condition scoring should be done particularly at the following stages of the lactation cycle:

1. At drying off, if cows are too thin or too fat, it should be managed to achieve target scores at calving.

2. Just before calving, make changes in the feeding management if there are too many thin or fat cows.

3. During early lactation, adjustments in feeding in the form of increasing the feed offered, reducing the moisture content of fresh forages through wilting, and improving the forage quality by feeding less mature forages should be attempted to minimize the loss in the body condition score.

Comparison of international body condition scoring systems

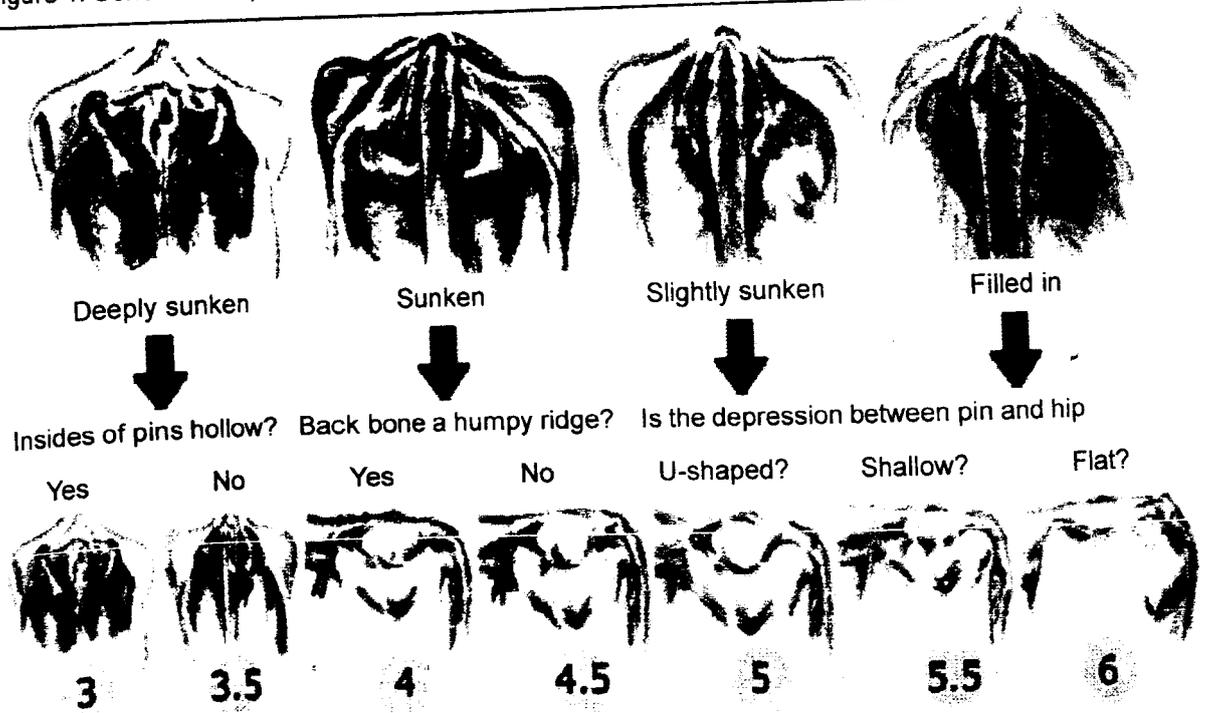
Scoring body condition and assessing changes in the body condition of dairy cattle have

become strategic tools in both farm management and research. Consequently, body condition score (BCS) is being researched extensively throughout the world. However, international sharing, comparing, and use of data generated are limited because different BCS systems exist. In the United States and Ireland a 5-point BCS system is used for dairy cows, whereas Australia and New Zealand use 8- and 10-point scales, respectively (Roche et al., 2004). The relationships among differing BCS systems have been studied by Roche et al. (2004). These results may be useful for comparing/extrapolating research findings from different countries.

Conclusion

Body condition scoring can well be combined with the thump rules for feeding of dairy cattle in order to achieve optimum milk production and reproductive performance. A single-cow dairy farmer may find the system described here rather confusing and impractical. A more farmer-friendly scoring system with only one or two body descriptors (eg. visibility of the 13th rib) coupled with awareness

Figure 1: Schematic representation of the scoring system*



*(Adapted from Moran, 2005)

programs concentrating on nutritional targets will have to be evolved if the concept has to get widespread application.

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