Body Condition Score and its association with Lameness in Dairy Cows

The Challenge

Cows in extended periods of negative energy balance mobilise body tissue reserves to meet energy requirements. This can have a detrimental effect on health and fertility. The purpose of this study was to investigate the relationship between cow body condition and lameness – the goal being to present management targets that can reduce the risk of lameness.

The Research

This study was carried out at Scotland's Rural College's (SRUC) Dairy Research and Innovation Centre, using records from 724 cows between 2003 and 2011.

Locomotion scores are collected weekly by trained operators using a scale 1 to 5. Cows are typically considered lame when they have a locomotion score of 4.0 or above on a single occasion or two successive assessments of locomotion score 3.0.

Body condition score (BCS) is assessed weekly using a 0 to 5 scale with increments of 0.25. Assessors are alternated weekly to reduce any likelihood of operator bias.

Body weights are also recorded using an automatic weighing system after each milking (three times daily).

The Results

The study showed that cows with a BCS less than 2 are at greatest risk of mild or severe lameness. Conversely, a BCS above 2.0 is correlated with a reduced risk of mild or severe lameness.

This study provided further evidence for a minimum target BCS threshold. A cow's body condition should be held at or above BCS 2.0 for control of severe lameness and at or above BCS 2.75 for optimum control of mild lameness.

In general, BCS change was able to indicate the risk of lameness three weeks prior to a clinical case of lameness.

The Impact

This study adds to the evidence that maintaining BCS is the best way to minimise the risk of lameness. It is important to control lameness and its associated adverse effects on animal welfare, production and fertility.

Universities Innovation Fund, from Scottish Funding Council

Project Detail

Project start date: [05/2014], finish date: [03/2016].

Email: mizeck.chagunda@sruc.ac.uk

SRUC Future Farming Systems.

Project funded by Biotechnology and Biological Sciences Research Council (BBSRC) and Boehringer Ingelheim

Summary printed [03/2017].

For more information on nutrition and herd management contact your local consultant or SAC Consulting Dairy Specialist at dairy@sac.co.uk