

Camera makes light work of checking cow condition

Body condition scoring is often seen as a tickbox exercise, but a new automated system could remove the hassle factor, while bringing feed efficiency and fertility benefits, reports **Aly Balsom**

Get body condition right and you're on to a winner when it comes to fertility and overall farm efficiencies, says Dumfries and Galloway farmer Grant Smith.

"I think if cows are in optimum body condition, it basically leads to fewer days open and improved conception and pregnancy rates, which leads to a better calving interval and more profit," he says.

Mr Smith has long recognised the importance of body condition scoring (BCS) and has done monthly scoring by eye for the past five years, even before it was enforced as part of his Co-op milk contract.

DeLaval's automated body condition scoring.

He also thought it would aid management as the farm undergoes expansion from 200 to 300 Holsteins.

"I thought it would be a really good, accurate and fast way to keep on top of BCS, especially on freshly calved cows," says Mr Smith, who farms in partnership with his parents Muir and Lorna.

Although metabolic issues have never been a significant problem at Kelton Hill, Castle Douglas, the fact fatter cows are more prone to greater condition loss around calving, and more likely to develop costly metabolic issues, makes close management a priority.

Cows yield 8,750 litres a cow a year at 4% fat and 3.3% protein, with the aim to hit 9,000 litres a head annually. The herd is split into high- and low-yielding groups, with the highs rationed for Mn+35 litres (maintenance plus), including 2kg in the parlour. However, with production varying from 30-50 litres within the group, and including heifers, Mr

Grant Smith believes body condition scoring is crucial

Smith says automated BCS could help cut feeding earlier. "We could possibly cut down the cake in the parlour quicker for some higher-condition cows. It [automated BCS] allows more accuracy in feeding and cost savings and vice versa. If you need to feed more, you can give more feed quicker, so you don't lose condition as quickly."

By flagging any dramatic losses in BCS around calving, the system also enables health issues to be picked up and addressed promptly. Although a drop in BCS is expected from 0-50 days in milk, a graphical display shows if losses are greater than expected. This information

can then be used to make management decisions. "I've had a few cows that are possibly 30 days in milk, no heat and losing condition, so I have tested for ketosis using a cow-side blood test. It has never picked up an issue, but if it did, I would speak to the



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AUTOMATED BODY CONDITION AND MOBILITY SCORING

* Ongoing research is looking at the potential to develop an automated body condition and mobility scoring system.

With funding from Innovate UK, Kingshay is carrying out the "HowMyCow" project in conjunction with the Centre for Machine Vision at the University of the West of England.

HOW THE AUTOMATED SYSTEM WORKS

* A prototype camera has been developed which takes a 3D image of the cow as it walks down the race after milking. This is used to create a model of the cow.

* For mobility, the system looks at several elements of skeletal movement.

* For BCS, it looks at the whole back of the cow, from the short ribs backwards – this method has been designed to account for cows losing condition in different ways – for example, some may lose it off the short ribs and not as much off the tail head and vice versa.

* It uses the data to create BCS, mobility and weight scores.

* The cow is tracked, so any incremental changes, specific to that individual can be picked up. This enables earlier intervention.

The camera is fitted on the gate at the exit from the parlour and uses infrared light to create a 3D image of the cow's back

vet, drench the cow with propylene glycol and give her an extra 0.5-1kg in the parlour," adds Mr Smith.

Speaking at the end of May, Mr Smith admits it is too early to establish the full potential of the system, as the herd usually has a three-month calving break from the end of April. However, with the herd moving to year-round calving and a batch of bought-in heifers due to calve soon and the main herd calving from July, he

hopes the system will enable better control of BCS.

So far he has been impressed with the accuracy of the system and says it is easy to understand.

He says: "Farming seems to be getting more difficult all the time, so something that makes it easier is always handy. Every open day also costs you money, so if you can keep optimum body condition, you can get cows to calve quicker and it will pay for itself in no time."

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