Take steps to increase cow lying times

Mobility survey underlines that a focus on cow comfort, particularly cubicle dimensions and bedding, is key to supporting good mobility. So what's the gold-standard design?

Stride
The UK Dairy Mobility Initiative

TEXT FLORE SUTER

Adequately sized cubicles, with comfortable and deep beds, are key to supporting good hoof health, and results from the recent nationwide Stride mobility survey underlined the importance of housing in reducing the incidence of sole ulcers.

These are lesions caused by pressure on cows' feet, often due to excessive standing times on a hard surface. And autumn often also sees an increase in these types of lesions due to increased summer temperatures that can cause heat stress.

"'Hot' cows will spend more time standing and less lying down in a bid to keep cool," explains Zinpro's Jonathan Huxtable, adding that the Stride survey highlighted an opportunity to prevent lameness by improving the housing environment.

"Producers must ensure that cubicles are suitable for the size of cow in the herd," he says.

"If cubicles are too small this will cause hoof-health issues because cows will spend more time standing.

"This puts prolonged excessive pressure on the bones in the hoof, which can cause additional trauma, sole bruising and eventually manifest as a sole ulcer."

From the producers surveyed, 50% housed cows for most of the year, and this means that the housing environment, particularly cubicles, play a vital role in ensuring lameness incidence remains low. More than 60% of these cubicle-housed herds were bedded on mats or mattresses, and only 25% used sand.

Cow comfort

"But well-managed, deep-sand beds are the gold standard for cow comfort," says Mr Huxtable. "On units where handling sand is problematic, invest in the most comfortable mattress available, even if it requires greater investment than some of the alternative mats on the market."

Producers wanting to take a closer look at hoof health

Jonathan Huxtable:
"Lying time is vital – many processes happen when cows are resting"

Check dimensions: ensure beds are at least 10cm deep

and create actionable reports to support good mobility could enrol their herd on the Zinpro FirstStep Program. This tool also focuses on transition management, as well as cow comfort and mobility, to help optimise herd health, longevity, performance and profitability.

It includes a housing audit that will identify cubicles that are too short or narrow, or have obstructions in the 'bob' zone or lunge space, according to Mr Huxtable.

"Maximising lying times is important because so many vital processes happen when the cow is resting. She ruminates and salivates more, helping to improve the efficiency of digestion and rumen stability. And lying down also allows blood to circulate more easily through the delicate tissues in the hoof to nourish them and aid the removal of any toxins that impact foot health," he explains.

"Blood flow to the udder also increases by around 20%, delivering more nutrients for the synthesis of milk and improving yields. It takes 500 litres of blood to pass through the udder to make every kilogramme of milk."

Faster recovery

Another benefit of optimising cubicle comfort is that cows with mobility issues will recover more quickly and have a better chance of recovery. "Conversely if the cubicles are inadequate, cows are less likely to recover and are at greater risk of being removed from the herd," adds Mr Huxtable.

He says this is closely linked to the frequency of standing up and lying down. "In a comfortable and well-designed cubicle, cows are more confident about standing and lying down and will do this more than 10 times per day.

"The discomfort and difficulty of standing up in a poorly-designed cubicle for a cow with hoof-health issues will often have a negative impact on her desire to rest. In simple terms, she's thinking 'why lie down if it hurts to get up again'.

"As a result, these cows stand for longer or lie in cubicle for increased periods of time and fail to visit the feed fence. This is a key reason why lame cows tend to be in poorer body condition."

Mr Huxtable adds that cows need to lie down for between 12 and 14 hours a day. Those that achieve this tend to remain in the herd for longer, resulting in improved lifetime performance. "If cows are lying for fewer than 12 hours a day then there is an opportunity to alter cubicle design to increase lying times and improve cow comfort and herd productivity."

When it comes to modifications, he suggests producers first look at cubicle bedding. "Aim to provide a bed that's at least 10cm deep. This can be achieved by the installation of a simple 10cm retainer on top of the rear kerb and using sand, compost or a mix of chopped straw, lime and water to fill up the beds.

The brisket locator and neck rail must also be correctly positioned so cows do not dung or urinate on the beds, keeping them clean and dry.

Add value

Resistance to changing to deep-bedded systems is typically due to cost, but Mr Huxtable stresses that this is less important than return on investment and value. "It may cost 0.75ppl to add a dusting of sawdust on top of a rubber mat, compared with 1.5ppl to create a deep-bedded system. But the former is a direct cost with no value, while the latter will bring value in terms of better hoof health and more milk."

The next focus should be on the lunge space. Remove obstructions in this area because standing up in confined areas, in an unnatural posture, puts excessive stress not only on her hooves, but also the cow's entire skeleton.

"Watch the natural lunging behaviour of cows at pasture. They should be able to replicate this in the cubicle, so ensure there is nothing to limit the cows lunging forward. If there is an obstacle, remove it," he says.

Examples include any brick wall that is not supporting the building and unnecessary cubicle metal work. To prevent cows from walking through the cubicles, a ratchet strap can be fitted between 60cm and 70cm above the cubicle floor, which will avoid impeding lunge space.

Mr Huxtable says that cows have outgrown the cubicles on many units. "A 730kg cow needs a cubicle that's 5cm wider and 31cm longer, with a neck rail that's 5cm higher, compared to a 640kg cow. It may be possible to adjust cubicle dimensions to better suit the current size of cows in the herd and the heifers in the pipeline.

"Time spent assessing and improving cubicle comfort will be time well spent," he adds. "A cow's health and productivity will determine how long she remains in the herd, and overall financial performance. Maximising cow comfort is just the start, but it's vital." |

Stride is a not-for-profit industry initiative headed up by industry partners Ceva, HerdVision, IVC Farm vets, Neogen and Zinpro. Scan the QR code to download the full Stride report.