

Just how appealing do your cows find their cow house?

Room for improvement

The majority of herds are now out at grass, so it's the perfect time to re-evaluate your cow housing and make improvements while the buildings are empty. We take a look at some common problem areas and some solutions.

text **Rachael Porter**

Cows like to be housed, at least some of the time. That was the finding of a study, carried out by researchers at Harper Adams University College and Reaseheath College, which set out to determine whether high genetic merit dairy cows have a preference to be indoors or on pasture and to assess which environmental factors influence their preference. "Cows expressed a partial preference to be indoors, which was influenced by environmental conditions, such as the rainfall, and individual cow

factors," says Harper Adams' Gemma Charlton. "It is possible that the higher yielding dairy cows expressed a stronger preference to be indoors as the TMR indoors allowed them to satisfy nutritional demands more easily than grazing at pasture. And the difference in the feed provided in each location may have influenced cow preference and requires further investigation," she says.

Cow preferences

Indoor housing and pasture can have both positive and negative effects on

the welfare of dairy cows, and environmental conditions can influence the location that dairy cows prefer. Studies have shown that pasture is the preferred lying place for dairy cows during the summer months, but preference shifted towards indoor straw housing with deep bedding in the winter.

"However, it is not clear how environmental conditions and cow factors influence their choice," says Miss Charlton, explaining the rationale behind her team's work.

"We found that, when given a choice, the cows spent 91.9% of their time indoors and time spent indoors was influenced by environmental conditions."

And, unsurprisingly, rainfall influenced preference, with cows spending more time indoors on days when it rained. And relative humidity outdoors also influenced preference, as did relative humidity indoors.

"When the relative humidity was low

both indoors and outdoors the cows spent more time at pasture. Average temperature indoors and average temperature outdoors had no effect on preference," she adds.

Better ventilation

Ventilation to deal with humidity and temperature issues in UK cow housing is one way that many producers could improve conditions in their buildings, according to The Dairy Group's dairy husbandry consultant Brian Pocknee.

"Ventilation is the most important aspect of a building when it comes to making it 'attractive' to the cow, yet it's still overlooked on a lot of units," he says, adding that cows are extremely sensitive to humidity and ammonia and other gases.

"They will notice if a building is full of stale air and it's stuffy. So making sure it's full of cool, fresh air by ensuring the building is adequately ventilated is vital."

In essence, this means both good inlets and outlet. Open ridges are essential, although they may be protected, and will usually need to be between 250mm and 300mm wide. "Look for cobwebs. If you've got them, then you've got poor air movement," he adds. |

Small change – huge improvement



Richard Pennington

Changing a water trough valve has made all the difference to cow housing for one Cornwall-based 600-cow herd. Thirsty cows frequently pushing and shoving one another at drinking troughs was a serious concern for producer Richard Pennington.

Providing the opportunity for cows and heifers to consume a relatively large amount of clean, fresh water is essential, but low water pressure at Treore Farm, near Port Isaac, was seen as a limiting factor. The predicament was further exacerbated by slow filling traditional brass water trough fittings.

"A group of cows would almost empty a 545-litre trough inside our buildings in no time at all. Refilling took ages using old brass trough valves. Cows became impatient and began to jostle. I also saw this happening around larger 1,815-litre troughs in our paddocks," Richard explains.

"In the summer the cows would quickly drink the troughs dry and push the plastic troughs off their

base. The slow refill time was a major problem."

To try to boost water flow to troughs, he initially imagined high costs and lots of work. But he discovered a straightforward solution. Armed only with simple plumbing tools, Richard fitted Topaz trough valves to around 20 existing troughs to maintain water levels to the herd during peak periods to his herd, which currently averages around 7,000 litres of milk.

Operating at water pressures as low as five PSI, the robust valves allow full water flow to troughs at a flow rate of up to 200 litres per minute. "The move to the Topaz valves meant I didn't have to install larger troughs or increase the bore size of water pipes. I reckon water flow increased 10-fold. This instantly relieved stress around our water troughs so our herd always has enough to drink post-milking and during hot summer days," he adds.

"Drinking water can account for two-thirds of water use on a dairy unit," explains Dairy Spares' Tim Evanson. The Shropshire-based company supplied the valves. "Daily requirements are between three and four times the daily milk yield. Four cows drinking from the same trough can consume up to 55 litres per minute. What's more, cows may consume between 30% and 50% of their daily water intake following milking, so it's essential to provide adequate amounts of drinking water during this peak time."

Richard has also installed three boreholes to relieve some of the strain on, and cost of, using mains water. And the business is also assessing ways to further reduce water costs and Richard has investigated harvesting rainwater from building roofs, and tapping spring supplies.

Happy hour: faster refilling makes for contented cows



Five-star accommodation: plenty of light and good ventilation are vital