

Make sure you quench your cows'

Whet their app

Cows need easy access to clean, fresh water. Without it, yields suffer and health and fertility will not be on target. Excessively dry TMRs and an assumption that some moist rations go some way to meeting cows' daily water requirements mean that some herds are just not getting enough.

text **Rachael Porter**

Some rations have proved exceptionally dry this winter – too dry in fact. Adding water to the mix has improved intakes on some units, as well as boosting cow health, fertility and productivity, according to Advanced Nutrition's vet Debby Brown.

She has seen real evidence of the impact that a limited water supply can have on fertility, as well as milk production. "This may be the result of low flow rates to troughs or a shortage of water trough space or difficult access. The ideal is at least 90mm of trough space per cow when temperatures rise anywhere close to 20°C."

Water also affects dry matter intake – if rations are dry then cows will be more thirsty. Cows with access to plenty of fresh, clean water will be far more likely to maintain and increase dry matter intakes. "If a TMR is very dry, adding water to the mix will definitely help reduce sorting and lead to healthier cows," says Mrs Brown.

Sorting problem

One producer who's seen this first hand is David Walker. He runs a 100-cow herd, based at Crook in County Durham. His cows were 'sorting' through the 30% dry matter TMR he was putting in front of them. "Adding some water binds it together and stops the cows from sorting it so easily. In fact, the results I've seen have been dramatic," he says. "I see very little sorting – if any. The cows are much healthier now that every mouthful of feed they take is the same."

David adds water to the mixer wagon at a rate of six litres per head per day, when he's mixing the forage proportion of the ration. He's done this throughout winter 2014/2015 and he also did it in winter 2013/2014.

"I'd say that our silage was a lot drier the first year we added water. And it really helped to moisten the ration. This winter we've continued with it and it's prevented a SARA issue. Cows are eating more and their health and fertility are better.

"It doesn't take long to add and mix in the water and it costs very little too – it's not an expensive feed additive. I think we'll continue with it for the foreseeable future."

David's focus on water also led him to take a closer look at the herd's water troughs. And these are now emptied out and thoroughly cleaned every three or four weeks.

"Thinking about water got me thinking about the troughs and closer scrutiny revealed that they were not very clean. I decided that if it wasn't clean enough for me to drink out of then it wasn't clean enough for the herd."

He believes that his somatic cell count has improved considerably since he started this new trough cleaning regime. The herd average stood at 170,000 cells/ml prior to regular cleaning, but it has dropped to around 70,000 cells/ml. "Nothing else at all in terms of cow management has changed – only that. So that's all I can put it down to." Cargill's Norman Downey agrees that



Well watered: do your cows have sufficient access to a clean and fresh supply?

thirst and maximise herd productivity

etite with water



water is extremely important. “The total body weight of a cow is between 50% and 80% water and she needs water to maintain body fluids and proper ion balance so she can digest, absorb and metabolise nutrients,” he says.

“Water also carries waste material and excess heat from the body, and it provides a fluid environment for various organ systems and the developing foetus.”

Common oversight

Water also accounts for 87% of the milk she produces. “A cow needs to drink three litres of water to produce a litre of milk and studies have shown that restricting water intake by 50% reduces milk yield by 27%.

He says that there are still many producers who are unwittingly limiting their herd’s access to water – or simply not supplying them with enough.

“Many cow houses fail to offer adequate space around the trough or allow for enough troughs per group of cows.

“This is a common oversight because many producers will be trying to optimise the amount of cubicle space available.”

Mr Downey says that the increased use of silage-based TMRs is also causing a ‘water’ issue.

“Many producers think that feeding a moist ration reduces the need to provide their cattle with water. That’s false.”

Winter rations based on silage with a higher moisture content will provide more of the dairy cows’ water requirements than a 90% DM ration.

But even a 50% DM diet will only provide 22 litres of water (22kgDM).

This is about a quarter of a 30-litre yielding cow’s daily requirement (see Table 1).

“High moisture diets alone are, therefore, not enough to satisfy a cow’s milk requirement – nor should high moisture diets be pursued in the attempt to increase water supply as they are often associated with a decrease in dry matter intake.”

A cow’s daily water requirement should, typically, come from the water trough (between 60% and 80%) with most of the remaining water coming from feed. “The amount of water supplied from feed is dependent on its moisture content and also influences how much a cow will drink from the trough.

“A lower dry matter, moist ration means less water consumption at the trough.”

Water consumption

A milking cow will drink up to 230 litres, in extreme circumstances, of water each day – exactly how much depends on activity, water intake, air temperature, humidity, respiratory rate, milk yield and feed consumption.

A ‘hot’ cow will lose water by panting and sweating – it’s a way of cooling down – so summer is when most producers give water the attention it deserves.

“Water tends to be overlooked in the winter and when temperatures are cool,” says Mr Downey.

“Producers forget to check troughs to ensure the pipes haven’t frozen.

“It’s also worth noting that you get a higher intake of water in cold climate if the water is heated. Cold water slows down rumen function.” |

Table 1: Water requirements of dry and lactating cows in a variety of seasons (source: Dairy Co, 2015)

ration DM%	water requirements (litres)					
	daily milk yield 20 litres			daily milk yield 30 litres		
	<16°C	16°-20°C	>20°C	<16°C	16°-20°C	>20°C
30	50	57	65	71	82	94
40	54	62	71	76	87	100
50	57	66	76	79	91	105
60	62	71	82	84	96	110
70	64	74	85	87	100	115