DN NEWSLETTER

issue 07

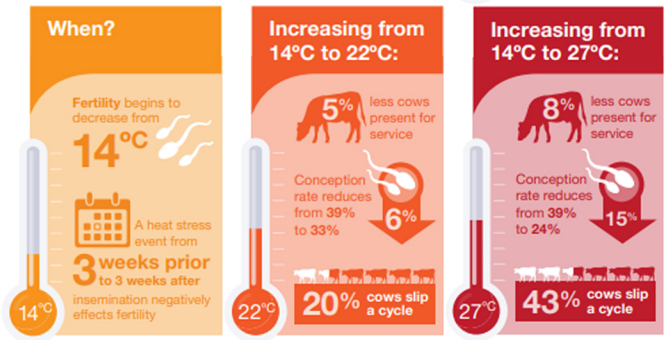
The recent hot, dry weather will impact the performance of livestock. Water is an essential part of the ruminant's diet, however it is often forgotten. Guidelines to supply adequate water to stock are given below. Heat stress also impacts performance, the first being fertility. This weeks newsletter highlights what farmers can do to reduce heat stress and we discuss a product available to reduce cases of heat stress.

Heat stress - keep them cool!

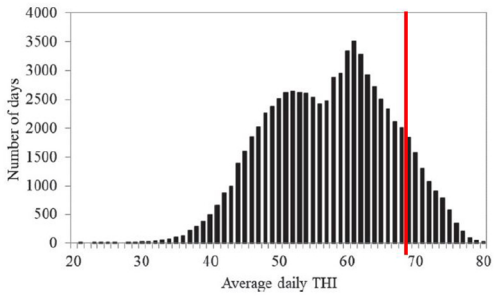
With ever fluctuating UK temperatures, over the last few years there has been a lot of research done examining the potential impact of heat stress upon UK dairy herds.

During 2019, in the period of May-August, the UK experienced temperature fluctuations from day to day of up to 12 °C. During these fluctuations weather measurements show that humidity rarely falls below 60% which is seen as the trigger level on the THI (temperature/humidity index) scales. This means that we are constantly at a trigger level for heat stress throughout the summer, even with our often-mediocre temperatures.

Data collected from a significant study in Germany covering 22k cows in 15 different herds over a 2-year period, has proven that fertility is always the first performance measure to be affected as temperatures rise. In fact, this impact begins to be seen from a very modest THI level of 57, which equates to just 14 °C at 60% relative humidity. This is well below the level that impacts on performance are seen (22 °C).



As we can see in the graph to the right, the UK experiences a significant number of days where the THI is above the level of 57 which impacts fertility with the second red line signifying the THI level of 68 which



equates to 22°C at 60% RH where impacts on performance would be seen. It's also worth remembering that THI figures within buildings can be 3-7 points higher than those recorded at the closest weather station.

The cow tries to adapt herself by reducing feed intake which means less heat is produced by fermentation, unfortunately this means less volatile fatty acids produced so less energy available to the cow and reduced milk production. She changes her metabolism to use fat for glucose for muscles which means less glucose is available for the udder and milk production. Finally, she pants and sweats to loose heat which disturbs her acid-base balance and increases the risk of SARA.

What can we do to reduce heat stress?

To mitigate rising temperatures we can:

- Use shade, fans, sprinklers
- Ensure clean fresh water
- Ensure high quality diet
- Better quality forages
- Good dietary balance

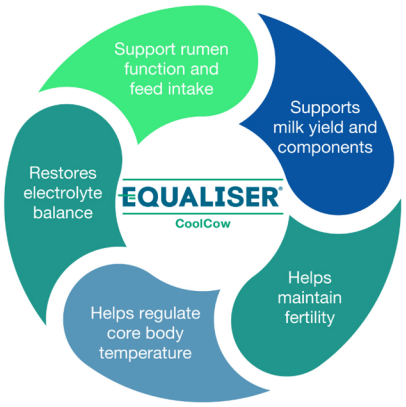
Water - the forgotten nutrient!

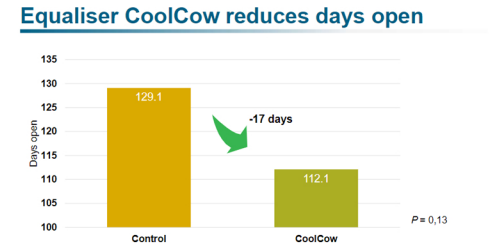
Whether cattle or sheep are inside or outside, it is crucial for the performance of stock that we ensure the supply of water is adequate to meet their needs by considering the following factors:

- Water intake drives dry matter intake
- Water needs to be clean, fresh, and readily available. If you would not drink it yourself it is not clean enough
- The average dairy cow spends just 30 mins per day drinking yet a 40lt cow could require more than 150lt/day to meet her needs
- Milk is 87% water in a dairy cow
- Periods of heat stress through high temperature or humidity could increase the requirements by 1.2 to 2 times
- Cows will not walk more than 250m to water, so troughs need to be correctly located with sufficient flow rates to meet their needs throughout the day whilst at grass
- Check flow rates, it may be possible to change/service ball valves to give better flow
- It is not just milking cows; dry cows, youngstock, sheep and beef animals all need consideration. A typical suckler cow could require 55lt of water per day to support milk production. A ewe at peak yield requires 8 litres water per day
- There should always be at least 2 working troughs in any one pen to ensure access to all animals when required
- Water from a source other than mains should be tested regularly for mineral antagonists and bacterial contamination
- Mains water should always be used for calves and lambs as other sources will be higher risk for causing scour unless treated before use

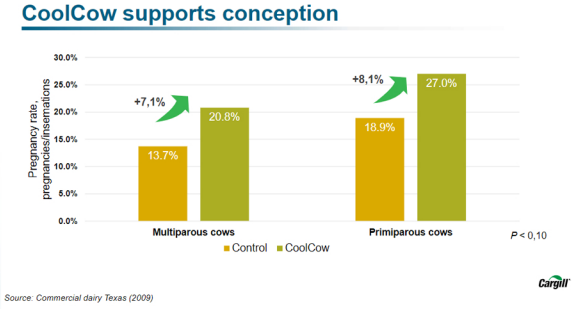
What can we do to help?

We are working with Cargill who have developed Equaliser CoolCow. Alongside the well-proven benefits of Equaliser as a buffer, they have combined plant extracts to help control heat production and promote heat loss by stimulating even feed intake over the day. This also stimulates evaporative heat loss, whilst also stimulating water intake by the cow. This helps restore electrolyte balance and combat dehydration within the cow, right down to cellular level. Extensive trial work has proven the positive impacts seen on fertility and production.





Source: Commercial dairy UK (2019)



Source: Commercial dairy Texas (2009)

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