

cowmanagement

heat-stress focus



APRIL 2026

ENVIRONMENTAL & NUTRITIONAL MANAGEMENT
TO KEEP COWS AND CALVES ON TRACK

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Cargill

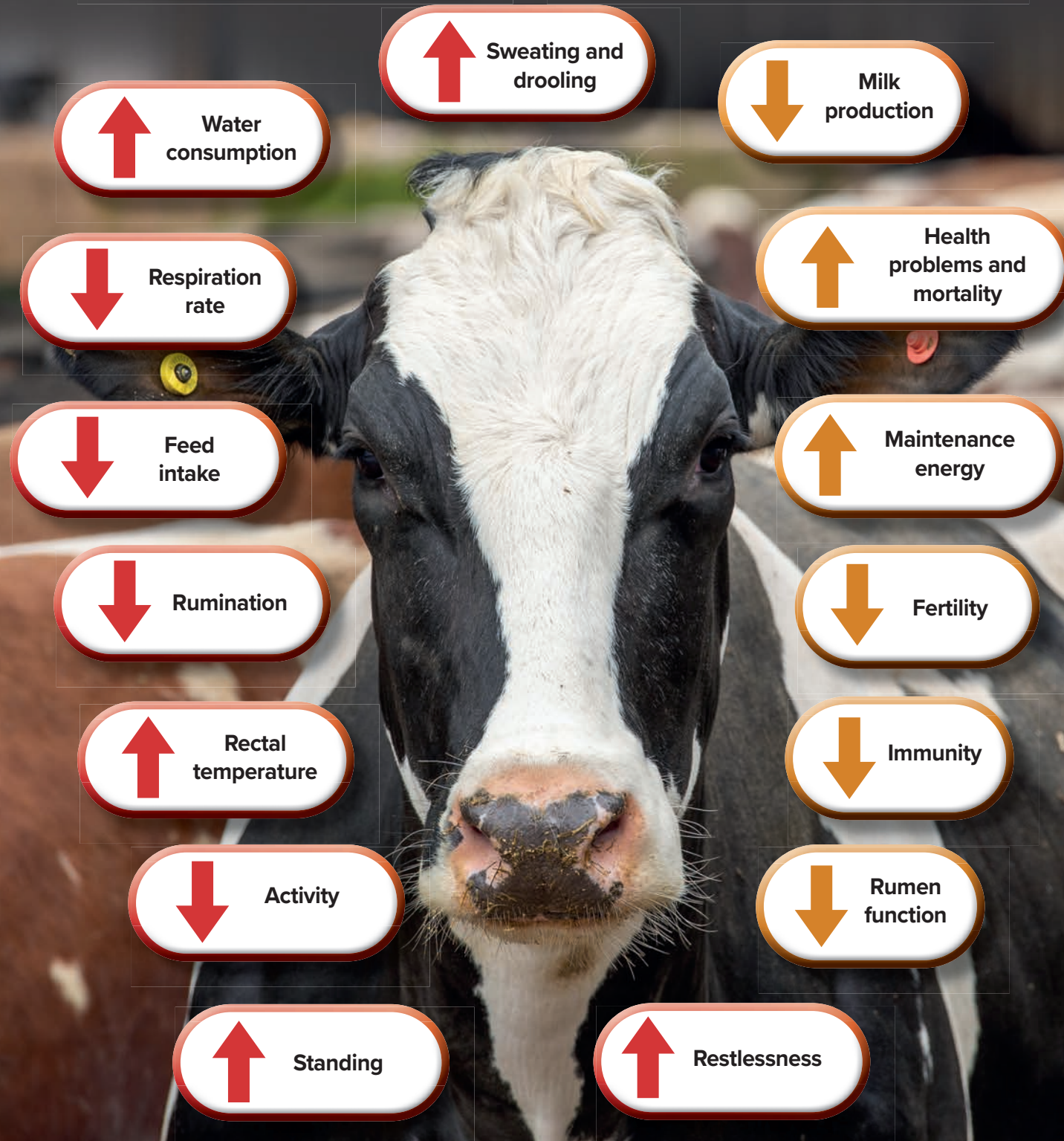
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Heat-stress signs and consequences

VISIBLE SIGNS OF HEAT STRESS

CONSEQUENCES OF HEAT STRESS



Keeping cows cool, as margins remain under pressure

There's a wealth of data that shows how heat stress can have significant negative impacts on, and financial implications for, all cattle ages and groups.

Producers see the impact that heat stress has on their herds, from reduced milk yield and fertility, through to increased production-disease issues and poorer calf growth rates and heifer performance. Its effects are myriad and also costly both in the short and long term.

From dry cows and in-utero calves, through to lactating cows, heifers and calves, mitigating the impacts of heat stress is vital to the success of any dairy business. And producers may need to take steps to do this earlier in the year than is typically perceived.

Heat-stress reduction and prevention requires a holistic approach, including a combination of environmental and nutritional factors. It's also vital for producers to prepare well, monitor the herd environment and their cattle, and be proactive.

Dry cows that are exposed to heat stress, for example, are more likely to experience decreased feed intakes pre-calving, as well as reduced immune function and subsequent milk production post calving.

Likewise, heat stress at this stage of the production cycle can also increase the likelihood of early-lactation disease incidence, such as mastitis and retained cleansings. This, in turn, can impact cow fertility.

There are also negative impacts on the in-utero calf, including reduced birth weight and stature, lower pre-weaning daily liveweight gain and intake, as well as reduced feed intake, immune function, productive life and lifespan, and future milk production.

All cows suffer from heat stress, but when it impacts dry cows and their unborn calves it has significant implications for the future productivity of the herd.

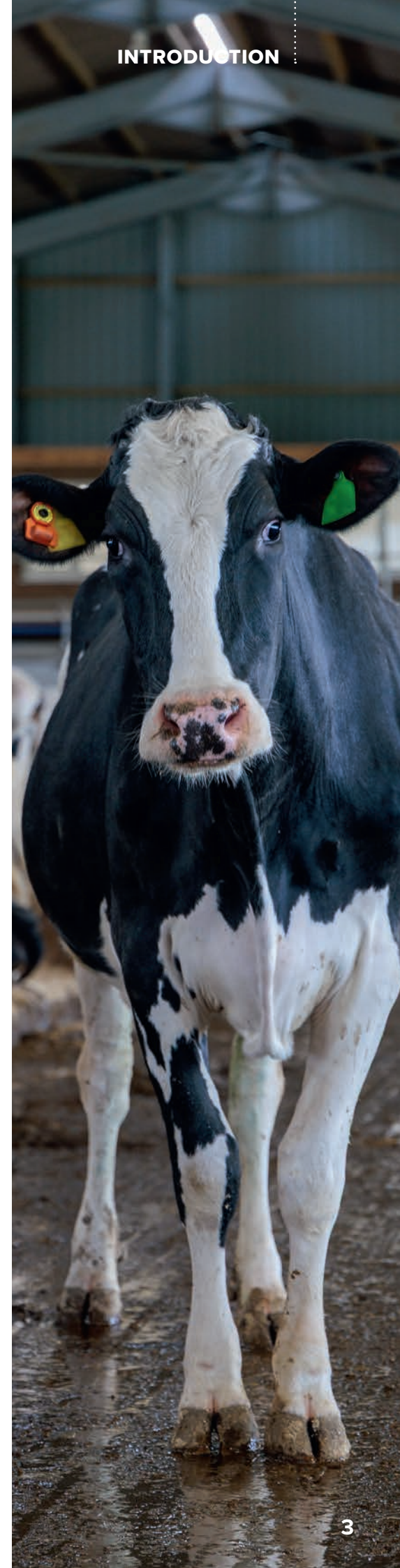
Temperature and humidity, measured by the temperature humidity index (THI), are both responsible for heat stress, so monitoring both inside and outside cow and youngstock housing is important. All too often, heat stress is associated solely with consistently hot weather or high spring and summer temperatures.

The reality is that the UK has variable and fluctuating temperatures and relatively high humidity, with an average base of 60% recorded in April to September in most years.

Dairy cattle – particularly adult cows – prefer and perform best in cool conditions. This supplement includes a wealth of information and figures that demonstrate what steps producers can take to check if the herd environment is conducive for optimal health, welfare and efficiency.

These include focusing on improving the housing environment for cows, dry cows, heifers and calves; using technology to monitor temperature humidity index and incorporating other ventilation and cooling systems to optimise conditions. Adapting rations, adding cow-cooling ingredients to the diet of milking and dry cows, and altering feeding regimes can also help to keep cows cool.

With so much to consider, this timely supplement contains everything producers need to ensure that 2026 is the year they make significant strides in mitigating the impact of heat stress across their herds. With milk price under continuing pressure, optimising efficiency and keeping cows healthy, fertile and productive should start with keeping them cool.



Heat stress risks reduced through early planning and diet

Heat stress affects dairy cattle at all ages and physiological stages. From April to October the combination of humidity and temperature in the UK can present challenges to cows and youngstock, impacting fertility, production and growth rates, with long-lasting consequences.

Cargill's ruminant adviser Helen Rogers and youngstock specialist Bianca Theeruth highlight how early planning, and adapting management and diets, can mitigate the risks and keep performance on target.

Conservative estimates put the damage caused by heat stress, due to lost milk, decreased fertility and reduced feed efficiency, at between £40 and £85 per cow in a typical UK year. Losses incurred by progeny from heat-stressed dams, and in the rearing period, are also significant.

Heat stress is more of an issue in high-production cows. A cow yielding 45kg of milk a day produces 26% more metabolic heat than one giving 32kg. So high-performance cows can struggle even more in warm and humid conditions.

The temperature and humidity index (THI), a measure to determine heat stress, can easily be monitored in cattle sheds and calf houses.

Between April and October, records show that the relative humidity in the UK doesn't drop below 60%. High humidity significantly lowers the temperature at which cows feel heat stress. When temperatures reach just 14°C, the temperature and humidity index is 57.

When the temperature gets to 22°C, the THI reaches 68, as shown in Figure 1.

As the thresholds are triggered, the first casualty is fertility, followed, at higher THI thresholds, by intakes, milk production, youngstock growth rates and foetal development of in-utero calves.

Table 1 shows THI average data, recorded by Cargill, from cow sheds across the UK from May to September 2022. Note that the THI inside cow housing is typically between three and seven points higher than outside conditions.

Helen Rogers

Cargill ruminant technical specialist



Bianca Theeruth

Cargill youngstock specialist



Table 1: THI data recorded in UK dairy herds (2022)

	SOUTH	MIDLANDS	NORTH	WALES	SCOTLAND	N IRELAND	UK AVERAGE
TOTAL DAYS	153	153	153	153	153	153	153
Days THI 57 or more	99	90	104	96	100	66	99
Days THI 65 or more	35	33	26	28	33	51	29
Days THI 68 or more	12	23	14	22	11	29	18

Figure 1: THI at relative humidity and temperature combinations

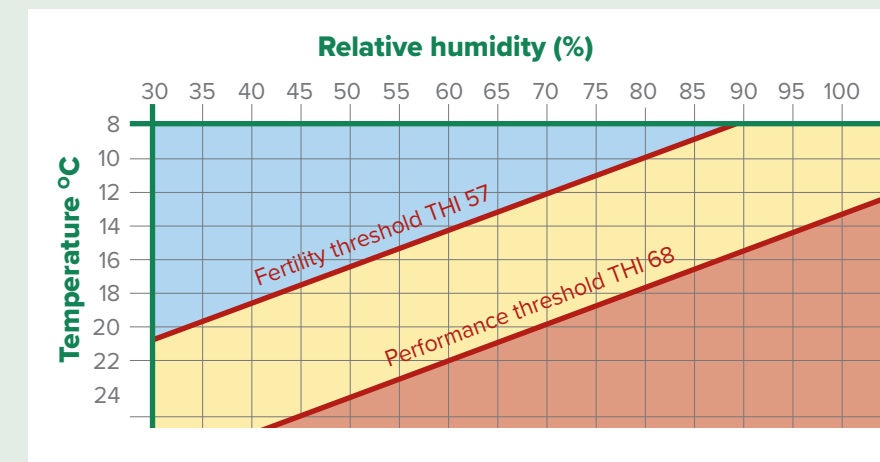


Table 2: Effect of season on fertility on eight UK dairy herds (2023)

	OCT – MAR	APR – AUG	DIFFERENCE
Insemination Rate	99%	90%	104%
Conception Rate	35%	33%	26%
Pregnancy Rate	12%	23%	14%

Milking and dry cows will show similar signs of heat stress. As temperatures rise, cows reduce their body heat by increasing blood flow to the skin and increasing breathing rate. Feed intakes and rumen fermentation reduce.

Heat hits fertility

"Many producers would admit to having a summer fertility problem but very few think they have a heat-stress issue," says Helen Rogers. Cargill data collected from eight farms in 2023, all using oestrus detection systems, show where fertility was affected (see Table 2).

"If we looked at fertility during the hottest period, from June to August, the effect would be more pronounced. Fertility dips are hidden until we reflect on data recorded in summer months," she adds.

Intake dip

Feed intakes will fall during hotter parts of the day, and cows will stand rather than lie down to increase heat loss, rest by drinking troughs to feel the coolness of the water or bunch up in shadier areas.

"They'll drink more and increase respiration," says Mrs Rogers. "If breath rate per minute is 44 or more, the cow is feeling the heat."

If this increases to 80 or more action is needed to cool her down. Signs of acidosis can be picked up in milking cows too, as intakes drop and rumen health is compromised."

A study of milking heifers, carried out in Turkey in 2006, showed that where the THI was between 70 and 81, feed intakes dropped by 46%, standing time increased by 34% and water intake by 30%.

"This THI range can be experienced in the UK – a THI of 72 is triggered at 70% humidity and 25°C," she adds.

Dry cow heat stress

Heat stress can have lasting effects on dry cows and their calves too, with dry cows showing signs of heat stress as the THI exceeds 65. In a typical UK humidity of 60% in summer, this would be reached at 20°C.

Research from the University of Florida has shown that when dry cows experience a THI of 68 or higher, milk production in their subsequent lactation is suppressed. Trials have recorded reductions in yield of between 5kg and 7.5kg per day.

"Compromised mammary development, resulting in fewer milk-producing cells, will reduce subsequent lactation yield potential," adds Bianca Theeruth.

"Much of the research has focused on heat stress in dry cows from six to eight weeks pre calving when the calf typically gains more than half of its birth weight.

"If the dam is heat stressed and has reduced feed intake, the supply of nutrients to her in-utero calf may be compromised, affecting growth rates and production of progeny. Reduced fertility and milk yields can extend throughout the animal's lifetime," she explains.

Shorter gestation times – by between two to eight days – have been recorded in heat-stressed dams too, resulting in lower birth weights and related problems such as poorer absorption of immunoglobulins, reduced immune function and growth rates.

A second study of calves born in Florida compared the post-weaning performance of those born from heat-stressed dams with those where dry cows were in a temperature-controlled environment.

Both groups were reared, post weaning, as a single cohort until 12 months of age.

Results showed that the in-utero heat-stressed heifers were smaller, lighter and had stunted mammary-gland growth.

Heat-stress mitigation

Modifying management and adapting diets so intakes are maintained should be part of the armoury as producers prepare for the warmer summer months.

Well-positioned fans, shade and plenty of trough space are important. Grazing cattle should have access to shade.

“The use of THI meters in buildings will flag up when extra cooling is needed,” says Mrs Rogers. “Adjusting feeding schedules and diet by offering higher energy feeds during cooler parts of the day will help to maintain intakes.”

Specialised rumen buffers with cooling factors, such as Equaliser® CoolCow®, are highly successful in helping to regulate the cow's core body temperature.

This powder rumen buffer is added to the TMR or compound feed through summer and supports heat loss through sweating, and helps to hydrate the cow at a cellular level and restore the electrolyte balance.

Farm trials show that Equaliser CoolCow supports yield, cow activity levels and pregnancy rates cost-effectively.

In UK trials, fat-and-protein corrected milk yield was numerically 0.5kg higher in the Equaliser CoolCow group throughout the trial period, and 1.5kg higher during the hottest weeks of the trial. Within cows eligible to be bred during the trial, those in the Equaliser CoolCow group got in calf 17 days earlier than those in the control group.

Dry-cow rations can be adapted too. Adding the feed product CoolCalver™ to the ration will mitigate the effects of heat stress. This product contains the specialist cooling pack found in CoolCow, valuable postbiotics and the energy-boosting, liver-priming feed supplement LiFT®.



Youngstock management

Calf performance will decline in warm, humid conditions, and consequences can be far-reaching, such as an extended age at first calving and lower first-lactation yields.

“Classic signs of heat stress in pre-weaned calves start with increased respiration rates and rectal temperature that begin at THIs between 65 and 68 – reached at 20°C in a UK summer,” says Ms Theeruth.

“As it gets warmer, feed intakes may fall. This can affect heifer development, age at first calving, and her performance in the milking herd.”

Monitoring the THI in the calf shed or hutch, ensuring good ventilation, air quality and air movement are all key. Feeding calves at cooler times of the day and replacing deep straw bedding with shavings, wood chips or sand will help.

“If they're drinking less milk, the concentration of calf milk replacer can be increased to compensate for any nutrient shortfall until starter feed intake increases,” she adds.

Ad-lib fresh drinking water is crucial too. Calves will double or triple their water intake and spend longer standing. Sunken eyes, dry noses, droopy heads as well as less urine and drier manure are all signs of dehydration and must be avoided.

“Calf hutches must be kept out of the full sun and air flow maintained by opening hatches and, if possible, elevating the back of the hutch.”

“We look for daily liveweight gains of up to 1kg in dairy calves to achieve a mature size for breeding around 15 months, and first calving at two years old. And if performance is knocked off course, there's little chance to catch up.”

Heat stress affects dairy cattle at all life stages and carries welfare and economic costs. These can be mitigated. To get tips and help on preparing for warmer conditions and keeping cattle on target scan the QR code.



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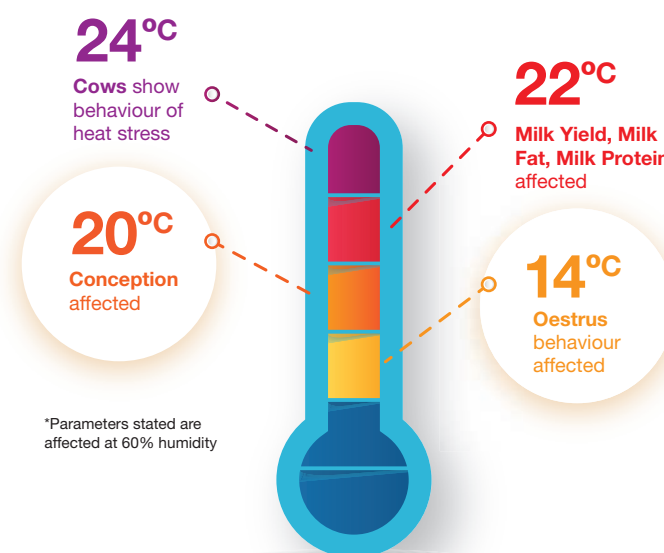
Taking the stress out of heat stress

Heat stress is a major challenge for dairy herds, reducing feed intake, summer fertility, calf viability, and overall cow comfort.



The Whole Herd Solution.

CoolCalver™ and **CoolCow®** are proven nutritional solutions that help mitigate the negative impacts of heat stress.



CoolCalver™ for dry cows

- Helps regulate body temperature and hydration
- Primes the cow for the demands of lactation
- Encourages feed intake and prepares the rumen for the lactation diet
- Helps protect the calf from the negative effects of heat stress

CoolCow® for lactating cows

- Helps regulate body temperature and hydration
- Supports feed intake and rumen health
- Helps prevent the summer fertility drop
- Keeps cows active and feeling comfortable during hot weather



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Don't leave it too late!
Protect herd performance before temperatures spike.



Set herds up for summer pregnancy success

Continuous monitoring helps to protect fertility when signs of oestrus disappear.

As temperatures rise this spring, UK producers face one of the most underestimated threats to herd productivity – heat stress. While its effect on milk yield is well understood, its impact on fertility is easier to miss, yet it’s just as damaging to herd productivity and profitability. When cows show weaker and shorter oestrus behaviours in warm weather, the risk of missed heats rapidly increases. And these missed heats mean a reduced pregnancy rate.

Studies carried out on Dutch dairy herds show a clear relationship between temperature humidity index (THI) and reproductive performance. Within the thermoneutral range of between 30 and 60 THI, both conception rate (CR) and calving interval (CIV) remain stable and predictable. But once THI rises above 60, the picture shifts. Conception rates fall by around 10%, and the interval from first to final insemination lengthens by up to five days.

At 60% humidity – a typical level seen on many UK units – these thresholds mean cows can begin to experience heat stress at between 21°C and 22°C. These are temperatures that most producers would consider to be mild. Producers should also bear in mind that shed temperatures typically run around 7°C higher than outside, so cows can be under significant heat stress even on days that feel comfortable in the yard.

Table 1: What THI means in real temperatures (at 60% humidity)

THI value	Approximate temperature (°C)
50	9°C
60	16°C
68 (heat-stress threshold)	22°C
70	23°C

Even more striking, CIV begins to worsen at THI 50 – a level typically reached on UK dairy units in spring and summer, and well below what most producers would consider a heatwave. Between THI 50 and 70, CIV increases by roughly 12 days. The interval to first-calving insemination (ICFI), rises steadily across all THI values, adding approximately six days from THI 35 to 65.

Research from a commercial dairy unit in southern England paints a similar picture. The work found that the milking parlour regularly reached severe heat-stress conditions during warm periods. The THI exceeded the critical threshold of 68 for 86% of the milking time, often climbing into the severe stress range of between THI 80 and 90. Heat stress, in other words, is not an occasional summer nuisance. For many units it is a recurring reproductive risk from April through to September.

Behavioural change makes heat detection harder

Heat-stressed cows express oestrus for shorter periods and with less intensity, making visual detection unreliable at a time when accuracy most matters.

Every undetected heat delays a breeding cycle by three weeks, but for block-calving herds the cost can be even higher. Even a modest reduction in submission rate during the summer months can translate into thousands of pounds of lost milk income and an extended calving pattern that can take several seasons to correct.

For many herds, particularly those without a dedicated AI technician walking the herd every day, relying on visual observation simply isn’t enough during the summer. Human observation, even on well-managed units, captures only a fraction of oestrus events. Oestrus expressed overnight or in a subdued 30-minute window during a hot afternoon can easily go unnoticed.

Phil Smith manages a 200-cow Holstein herd, near Preston in Lancashire, on a five-week block-calving system. The herd is milked three times a day and is averaging 10,500 litres of milk per cow.

“Fertility is critical for any herd, but in a block-calving system it’s vital,” he says. “It’s important to stop cows from slipping out of that five-week block – the quicker cows are back in calf the better, both financially and management-wise.”

After a frustrating experience with a previous monitoring system, Phil looked for a reliable solution that would improve both heat detection and herd-health oversight. After speaking to other producers and thoroughly evaluating all the options, he invested in PrecisionCOW, powered by Nedap collars, through Cogent.

The transition was straightforward. Installation at Breakneck Farm was completed in a single day by the Cogent team, with ongoing support from the herd’s Cogent genetics consultant throughout. Each morning now begins the same way for Phil – a cup of coffee and then straight to the phone to review his herd’s data.

“The system is there when I get up in the morning. I make a coffee and then I’m on the phone looking to see what heats there are. I then check the cow software to see if they’re ready to serve,” he says.

Earlier detection, better outcomes

The value of continuous monitoring quickly became apparent. PrecisionCOW flagged a potential mastitis case approximately 24 hours before Phil would typically have spotted it through visual observation.



“Nine times out of 10 if it flags up an issue, there’s usually something wrong,” he says. Earlier detection means faster treatment, less waste milk, reduced antibiotic use, a quicker recovery, and crucially a cow that stayed in the herd.

That reliability – the confidence that an alert means something – is what separates a monitoring system that producers trust from one they learn to ignore. For Phil, it goes to the heart of why he invested in the first place. “It’s peace of mind that you’ve got data there that can help with herd management.”

Tech is indispensable during the summer

Nedap collars monitor each cow continuously, detecting subtle behavioural shifts – changes in activity, rumination, and feeding patterns – that precede and accompany heats. These are signals the human eye cannot reliably detect at scale, and that heat stress makes even harder to spot.

The system identifies four levels of heat-stress severity (mild, mild to severe, severe and very severe), updating every 15 minutes, giving producers real-time

insight into which animals are under pressure. Alerts arrive before cows display outward symptoms, allowing immediate action to be taken. Producers can deploy fans and sprinklers, adjust feeding times, and revise milking or grazing schedules.

Validation data shows that timely intervention – cooling, shade, adjusted feeding – can reduce heat stress by at least one severity level. Moving a cow from severe to mild stress, for example, can be enough to restore normal oestrus expression and protect conception rates.

For a block-calving herd like Phil’s, where missing a heat can mean a cow slips out of the system entirely, that 24/7 vigilance is more than a luxury. It is the backbone of the herd’s reproductive programme.

Complete reproductive partnership

Phil’s experience illustrates the impact of treating reproductive management as a connected programme – from heat detection through to genetics, semen quality, and long-term herd improvement – rather than individual decisions. Cogent’s role as a reproductive partner spans every stage of that programme.



PrecisionCOW: your 24/7 herd walker

From heat detection and data-driven insights through to genomic testing, mating decisions and semen quality, Cogent's approach is built around supporting reproduction as a complete, connected system.

At herd level, that process begins with accurate and timely heat detection. PrecisionCOW, powered by Nedap collars, monitors every cow at 15-minute intervals, analysing changes in activity, rumination and feeding behaviour to flag oestrus, heat stress and health issues as they develop.

Backed by the scale, investment and genetic expertise of STgenetics, this joined-up approach is designed to give producers the tools, data and support needed to deliver consistent fertility performance.

Genomic testing: know your herd, breed from the best

PrecisionDNA, PrecisionDNA Pro and PrecisionDNA Crossbred genomic testing options provide genomic insights tailored to different herd types and breeding objectives, giving producers the data to identify their highest-value females. PrecisionMAP mating software and Chromosomal Mating services add further accuracy to sire selection, helping reduce genetic risk, prioritise mating decisions and accelerate genetic progress – maximising the value of each insemination.

Semen quality

The best heat detection in the world counts for nothing if semen quality is poor. Cogent's sexed semen consistently delivers conception rates above industry averages, so it helps buffer herds against environmental challenges, such as heat stress, ensuring fertility performance remains resilient even when conditions work against the cow.

Cogent's semen quality standards are among the highest in the industry, offering a 60% conception rate three hours post-thaw, a minimum of four million motile sperm per straw, and a documented 7% higher conception rate versus the industry standard. Proprietary synthetic media, Ultraplus, is used across all products, and every bull receives rigorous health and production monitoring throughout his working life.

Consistent fertility performance

Phil's ambition for PrecisionCOW is straightforward: maintain good fertility, improve cow welfare, and let better management feed through to production, efficiency, and ultimately profitability. It's the same ambition shared by every producer heading into the warmer months, and it's the same logic that makes continuous and reliable heat detection invaluable.

As spring warms up and heat stress begins to erode oestrus expression, the herds that maintain submission rates will be those with monitoring that never clocks off. Cogent's PrecisionCOW service is built to be exactly that.

Cogent's full breeding suite – from genetics that underpin long-term herd improvement and the technology that ensures no heat goes undetected, through to the expertise that turns the right data into the right decision at the right time – is tailored to help every herd get the best from its breeding programme.

Ready to protect your fertility this season?

Speak to your local Cogent Genetics Consultant or call free on 0800 783 7258 to book a PrecisionCOW demo. Scan the QR code to find out more about PrecisionCOW



Summer fertility: Key Figures

THI >60: conception rate drops ~10%

THI between 50 and 70: calving interval increases ~12 days

86% of time spent in the milking parlour exceeds THI 68

Six days: extra ICFI from THI 35 to 65

Four levels: of heat stress (mild to very severe) detected by Nedap collars every 15 minutes

Cogent's reproductive toolkit

- PrecisionCOW – Nedap collar monitoring
- PrecisionREPRO – AI technician service
- PrecisionDNA/DNA Pro & DNA Crossbred – genomic tests
- PrecisionsMAP – mating programme software
- Chromosomal Mating – mating solution
- Dairy sire programme

Breakneck Farm facts

Location: Preston, Lancashire

Herd size: 200 milking cows

Average yield: 10,500 litres

Milking: three times daily

System: five-week block calving

Youngstock: 100 head

SWITCH ON YOUR GENETICS

At Cogent, we have market-leading expertise and a full range of reproductive tools to support you in improving genetics, driving profitability and strengthening longevity of your herd.

COGENT'S PRODUCTS AND TOOLS ARE BUILT ON:

- UNWAVERING QUALITY CONTROL
- ONGOING SIGNIFICANT INVESTMENT
- RELIABLE UK DATA
- UNRIVALLED KNOWLEDGE

We are committed to driving innovation in breeding. Our complete range of solutions delivers real reproductive improvement on farm.

For all your breeding requirements contact our genetic consultants on:

0800 783 7258

The cogent *difference*

Part of the **STgenetics** group.
www.stgen.com



www.cogentuk.com



Key housing principles for healthy youngstock

A calf's first few weeks set the trajectory for lifetime performance. To ensure optimal growth, reduced vet costs, and a more profitable enterprise, a holistic approach to improving the calf-rearing environment is essential.

Myriad factors impact the success of calf-rearing systems and outcomes, and Galebreaker's animal welfare specialist Chloe Rodriguez recommends that producers should assess and address the following:

- **Hygiene** – protect calf health through strict biosecurity: clean, dry bedding, regularly sanitised pens and feeding equipment. For group housing that is all-in/all-out, group within a 21-day age range to limit disease spread.
- **Moisture control** – allow for good drainage (ideally a 5% fall), fresh bedding and weatherproofing. Automated side curtains can prevent excess moisture and pathogens from accumulating.
- **Temperature regulation** – maintain calves in their thermoneutral zone (between 15°C and 20°C) during the first four weeks of life by using jackets, heaters, adequate nutrition, and housing that supports high nesting scores.
- **Fresh air** – pathogens are killed between 10 and 20 times faster in fresh air. However, calves don't generate enough heat to exhaust warm, contaminated air from buildings. Installing a positive-pressure tube-ventilation system delivers between four and eight air changes per hour, while allowing a building to be opened in warm weather can increase air exchange to more than 40 per hour to minimise the risk of calf heat stress.
- **Air speed** – reduce the build-up of harmful gases and support respiratory health by aiming for a target air speed of 0.25m/s in winter and 1.3m/s in summer at calf height (1.2m from bedding). Correct air speed is critical to keep air moving while avoiding draughts. Performing a smoke test can assess ventilation quality and help identify housing issues.
- **Lighting** – aim for more than 200 lux for between 16 and 18 hours, and less 30 lux for between six and eight hours.

Developing CalfHub

Calf housing is often the 'missing piece' in the system. During a two-year collaboration between Galebreaker, Scotland's Rural College (SRUC) and High Skeog Farm, the CEVEC (Cost Effective Ventilated Environment for Calves) project tested the extent to which a smarter, purpose-built calf environment could optimise performance.

CEVEC's results reinforce that when ventilation, monitoring and shed design work together, dairy units can unlock measurable gains.

- Strong growth rates – daily liveweight gain of up to 250g more than calves housed in hutch systems
- Improved health and welfare – including fewer lung lesions
- Up to 75% reduction in labour
- Better working conditions

The project has led to the introduction of the CalfHub system, a group calf-housing system that combines proven design principles with smart technology to deliver consistent fresh air, healthier calves and simpler daily management.

Concerned about calf housing? Request a building audit from Galebreaker by calling 01531 637 900 or scanning the QR code for more information.



Natural ventilation strategies for healthier herds

Providing fresh air in livestock buildings makes a significant contribution to herd performance. Galebreaker's Chloe Rodriguez explains the five principles of optimising natural ventilation.

Warm air rises

The stack effect in livestock buildings refers to air's natural movement through temperature differences inside and outside a building. "Pushing out hot, moist, or contaminated air and pulling in fresh air is crucial for cow health and comfort," says Miss Rodriguez. "If buildings are poorly designed or there are extreme temperature differences, the stack effect will be compromised."



Optimising ventilation

- **Outlets** – warm, stale air needs to exit the building. Traditional crank ridge tiles are poor exhausts, typically only providing 20% of the natural ventilation required. Galebreaker's VentRidge system can be retrofitted to existing buildings and removes air four times more effectively than an open ridge, while giving full weather protection.
- **Side inlets** – maximise efficiency by ensuring inlets are between two and four times the size of the outlet to circulate fresh air into the cows' microclimate. Traditional weatherboarding is often a compromise between natural ventilation and weather protection, whereas automated side curtains are designed to deliver variable ventilation controlled by weather sensors.
- **Roof pitch** – as a rule of thumb, the steeper the slope, the better. Aim for an angle of between 17° and 22° to provide greater upward air pressure. Also consider lights on south-facing roofs as these can create significant solar gain.
- **Wind shadow** – when increasing existing housing capacity, consider the location of a new shed in relation to other buildings. Adding to existing buildings can restrict the side inlets' effectiveness. Instead, allow a gap between buildings, with an optimal distance of 30m, to allow fresh air to flow between buildings without contaminating other livestock groups.
- **Building orientation** – to maximise airflow, position buildings perpendicular to the prevailing wind. This maximises the natural airflow coming over the ridge and promotes the exhaust effect by accelerating wind speed.



Graig Olway Farm

Russell Morgan runs a housed herd of 170 high-yielding Holsteins producing an annual milk yield average of 11,000 litres.

After identifying heat stress as a key challenge for the herd, Mr Morgan worked with Galebreaker to improve his existing housing by installing a variable ventilation system and VentTube Cool as a sustainable, cost-effective solution.

"The tubes blow fresh air onto each individual cow when she is lying in a cubicle, keeping her cool and comfortable. This system has made a huge difference.

"Since installing the technology, we've seen better health and performance this summer. It's really improved the environment inside the sheds," says Mr Morgan.

Please scan QR code to watch the case study video.



Managing heat stress – practical steps to keep cows comfortable and productive

In a changing climate, livestock buildings need to be resilient to increasingly volatile temperature fluctuations. As more extreme weather patterns prevail, the temperature-humidity index (THI) is becoming a critical measure used to assess the combined effects of environmental conditions on dairy herds. Galebreaker's Chloe Rodriguez looks at the impacts of heat stress and ways to optimise herd environments.

Dairy cows are particularly sensitive to heat stress, and elevated THI levels can significantly affect wellbeing and productivity.

- **Milk production** – decreased feed intake by up to 30% because more energy is expended on staying cool, leading to lower yield and poorer milk quality.
- **Reproductive health** – changes in hormone levels, altered oestrous cycles, and lowered conception rates.
- **Health concerns** – makes cows more susceptible to mastitis and metabolic disorders. Prolonged exposure weakens cows' immune systems, making them more vulnerable to infection.
- **Behavioural changes** – heat stressed cows may display signs including: reduced activity; increased standing, which can lead to mobility issues; panting; and seeking shaded areas.

Common factors influencing heat stress

- **Stocking density** – overcrowding can compound heat stress. For lactating cows, between eight and 10 square metres per cow is recommended in resting areas.
- **Genetics** – modern herds have been bred to be more productive. Pushing milk yields contributes to an increase in the cows' metabolic rate, which raises their body temperature.
- **Climate change** – variability is a problem as the UK experiences greater extremes and prolonged hot weather.

Overcoming heat stress

Managing environmental factors that influence THI can help mitigate the negative impacts of heat stress. For long-term improvements consider installing a cooling system, such as Galebreaker's VentTube Cool, to improve airflow and reduce indoor temperatures.

THI Live

With summer 2025 ranking as the hottest on record, producers can take advantage of Galebreaker's online tool, THI Live, to monitor and mitigate heat stress in cows.

A subscription service is available to producers, to install internet-enabled temperature and humidity dataloggers to provide real-time information on heat stress risk.

Scan the QR code to contact us.



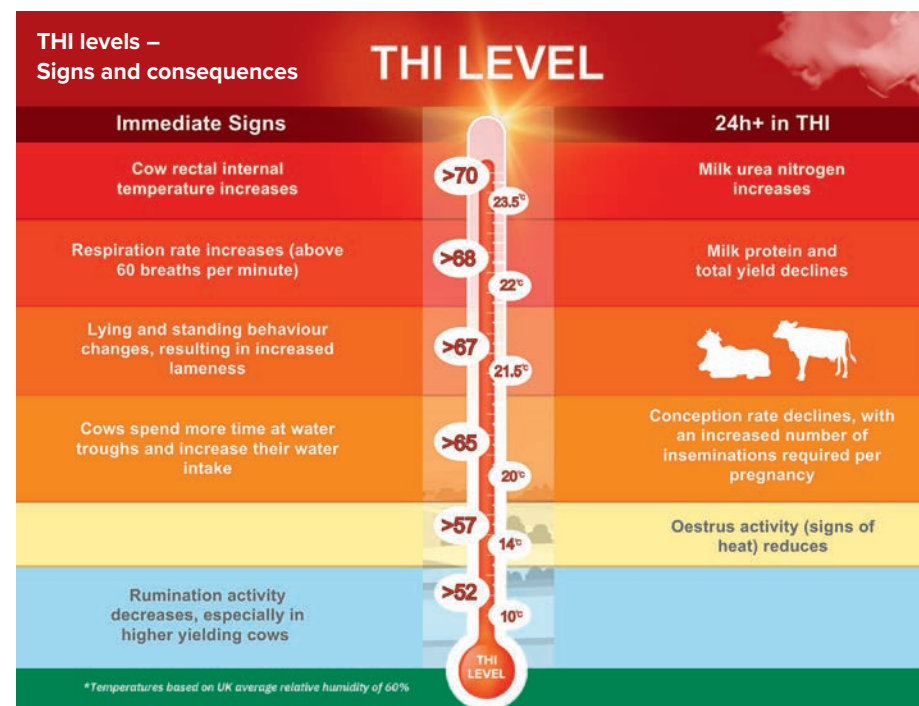
Bolham Farm

Mark and Anita Saunders run a 90-cow herd of predominantly Holstein Friesians.

Keeping their high-yielding cows comfortable is key to maintaining the health, welfare and productivity of the herd, and led to the installation of a VentTube Cool.

"The VentTube made a massive difference to milk yields," says Mrs Saunders. "Even local herds who were using fans in the heatwave suffered a milk loss of five litres per cow per day, compared to our reduction of just one litre."

"The investment has been worth it to keep the cows comfortable and maintain the output as much as possible in adverse weather."



The vet's perspective

By Colin Mason, Ruminant Revival

Optimising the herd environment is crucial at all life stages, from newborn calves to mature cows.

Housing is not an optional extra – it's an integral part of the management system, shaping disease pressure at every stage.

Bovine respiratory disease (BRD) remains a significant welfare and performance challenge for youngstock in UK dairy systems, and the shed environment is a key factor when it comes to prevention.

Thermal comfort matters too. Calves and cows need warmth without draughts and fresh air without chilling. Poor air quality and damp conditions increase the risk of respiratory disease, particularly in milk-fed calves until post-weaning.

We also need to think wider than lung health. Calves that scour, even mildly, are much more likely to go on to develop respiratory disease.

That's why colostrum and transition milk feeding are vital to rearing resilient calves, and why housing must also support gut health with dry pens, moisture control, and effective biosecurity.

Heat stress is another welfare issue, increasingly affecting calves and cows beyond peak summer. As an industry, we need to review how we manage the cow environment to build in climate resilience through better ventilation, adequate space, and shade strategies outdoors.

An active approach to health planning that brings together the farm team and vet is the best solution. Creating specific plans to get to the root of current problems will establish a better long-term fix for all.



Optimise your environment from calf to cow – speak to Galebreaker's Animal Welfare Team.

Is housing the missing piece in your livestock welfare strategy?

With over 40 years of experience, Galebreaker provides innovative housing solutions that not only enhance animal welfare but also improve overall productivity. From reducing heat stress to improving ventilation, our products are designed to ensure your livestock thrives.

Enter to win!

Prizes up for grabs include: Free housing assessments with the Welfare Team (worth £350 each) - THI Live subscriptions - THI sensors - Galebreaker beanies

To enter, scan the QR code and answer this question to win.

- Q At what THI level do cows experience no heat stress?
- Less than THI 52
 - THI 65+
 - THI 70+

Every entry will receive a 10% discount on any products purchased with us directly within the next 6 months, please quote CM2026





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