

TOMORROW'S FARMER

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Think more like a cow!

Please try to think more like a cow, if you are hot, your cows are hotter! At what temperature do cows begin to show signs of heat stress? Historically, UK summer temperatures were not seen as a major limit to dairy cow performance. However, evidence now suggests that even relatively modest summer temperatures can affect production.

The ideal environmental temperature for a cow is around -5°C to +15°C, although this will vary with liveweight, breed, feeding level and production level. As temperatures rise, cows try to lose heat by sweating, but they only sweat at around 10% of the rate of a human, making them far more vulnerable to heat stress.

Heat stress can reduce milk yield, milk quality, fertility and immune function. Dairy cows are homeothermic animals and need to maintain a body temperature of about 38.6°C, plus or minus 0.5°C, for efficient metabolism. Heat is produced through normal rumen digestion and metabolism,

and this heat must be lost to the environment. When conditions are warm, heat is lost more slowly, body temperature rises and heat stress develops.

Cows respond by reducing feed intake, typically by 10 to 15%, although reductions of up to 30% can occur. Rumination time falls, and cows may become selective, favouring concentrates over forage because forage digestion creates more heat in the rumen. Respiration rate increases, often above 80 breaths per minute, along with standing time, water intake, salivation, drooling and panting. The rumen then becomes less stable, with lower rumen pH, reduced volatile fatty acid and microbial protein production, and poorer nutrient digestibility. Maintenance requirements also rise as the cow works harder to lose heat.

Look out for cows standing for longer, lying less, panting, becoming lethargic or standing with heads lowered. They may also bunch together in tight groups, which can look surprising but is commonly seen during heat stress.

High yielding cows are especially sensitive because milk production generates metabolic heat. A cow

producing 18 litres per day generates around 28% more body heat than a dry cow, while a cow producing 31 litres per day generates around 48% more. NADIS suggests each cow produces a similar heat output to a 1.4kW electric heater. Short bursts of heat, with little time to adapt, are particularly challenging, especially where cows cannot cool down overnight.

Dry and transition cows should not be overlooked. Heat stress during the dry period can impair mammary development and alter metabolism, reducing subsequent milk yield. Trouw Nutrition reports that heat-stressed dry cows may produce calves with lower birth and weaning weights. There is also evidence that late gestation heat stress may affect the cow, her calf and potentially the next generation.

Practical measures include providing cool, clean, fresh water at all times, as water intake can rise by 20 to 200% during heat stress. Ensure water is available near the parlour, collecting area and feed fence, or within 250m at grazing, with enough flow for peak demand. Offer shade, cooler fields or housing where possible, avoid moving cows during the hottest part of the day, and reduce time spent in collecting yards.

Feed highly digestible forages, keep feed fresh, push up regularly and consider feeding twice daily where appropriate. Live yeast, rumen buffers, niacin and fat-soluble vitamins may help, but should be introduced well before and after the heat stress period. Also check buildings, as south facing roof lights can add considerable heat.



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Does embryo transfer have a place in all dairies?

Embryo transfer (ET) is no longer a niche technology reserved for elite pedigree herds. With advances in both Multiple Ovulation and Embryo Transfer (MOET) and ovum pick-up (OPU) in vitro production (IVP), these tools are becoming increasingly practical and accessible for a wide range of dairy systems.

Producers are now exploring how ET can fit into their herd strategy—not just for breeding the “best,” but for improving overall efficiency and profitability.

One of the key advantages of ET is the ability to accelerate genetic gain. By selecting your highest-performing cows whether that's for milk yield, fertility, health, longevity or conformation. You can produce multiple offspring from these animals within a single year. This allows herds to progress more rapidly than through conventional breeding alone.

MOET programmes are particularly effective for cows with proven performance, enabling multiple embryos to be collected and transferred into

recipient animals. Meanwhile, OPU/IVP offers greater flexibility, allowing embryo production from young heifers and pregnant cows, so that donor age at first calving or number of days open remain unaffected. It can also be scheduled more conveniently, making it easier to integrate into busy farm routines.

Beyond genetics, ET can support herd management goals. It enables the use of sexed semen more efficiently, helps expand the cow families you value most, and can reduce the number of replacement heifers needed from lower-performing animals.

For herds focused on sustainability, faster genetic improvement can also contribute to improved feed efficiency and reduced environmental impact per litre of milk.

More recently, together with the University of Nottingham and Paragon Vet Group, we have been investigating ET technologies to improve conception rates in artificially inseminated cows. With fertilisation rates upwards of 83%, but average conception rates only around 39%, reducing embryo loss seems key to improving dairy cow fertility. Our research looked at ways to increase

the pregnancy signal sent from the conceptus to the dam to reduce the risk of embryonic loss. To do this, parthenogenetic embryos were produced in an IVF lab, derived from abattoir ovaries, and transferred into cows around one week after their first insemination. These embryos contain only maternal DNA and are therefore non-viable. However, they can survive in the uterus for a limited period and may help support the original pregnancy through the critical stage of maternal recognition of pregnancy. This approach offers advantages over transferring viable embryos, including a more sustainable production system and no increased risk of twinning. Our results are due to be published later this year, but they look very encouraging and we are hoping to offer a parthenogenetic embryo transfer as a service in the future.

ET may not be necessary for every cow, but with continuing development it can have a place in almost every dairy system when applied strategically with planning. Working with an experienced veterinary team is essential to ensure protocols are tailored to the farm's system and goals.

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Feeding Actisaf® live yeast supports optimal rumen function in beef cattle

As a beef producer, you're always looking for ways to maximise the performance, health and profitability of your herd.

One of the primary hurdles faced by beef producers is the disruption to rumen function that often accompanies the shift to a more energy-dense finishing ration. As the diet changes, the rumen microbiome must adapt to handle the rapid fermentation of starch and sugars, which can lead to a drop in rumen pH and the onset of acidosis. This disorder not only compromises feed efficiency and growth but also increases the risk of other health issues, such as lameness and liver abscesses.

Incorporating live yeast probiotics into your cattle feed can help to unlock a host of benefits. Feeding Actisaf® live yeast to beef cattle has been repeatedly proven to support the bugs that stabilise rumen pH, reduce build-up of lactic acid and increase fibre digestion. In turn, this prevents digestive upset, eases the transition onto finishing diets, reduces the risk of acidosis and loss of performance, and increases VFA (energy) release from feed – the key driver of live weight gain. Good rumen function supported by Actisaf® promotes efficient digestion, unlocking more from your forages and feed to support high levels of feed efficiency for enhanced performance.

Actisaf® has been found in several trials to improve feed efficiency in ruminants by stimulating the growth and activity of rumen microbes. In beef cattle, EU trials show that Actisaf® increases growth rates (DLWG) by up to 9%, increases feed conversion efficiency by up to 4.3% and improves carcass classification – all contributing to a more profitable and sustainable operation.

Actisaf® provides a simple yet powerful solution to support rumen function, animal health, and overall performance, helping producers navigate the road to success.

We recommend incorporating Actisaf® at a minimum rate of 1kg per tonne of feed for feed rates of 5-10kg or a recommended dose rate of 5-10g per head/day. Contact your CMC representative to discuss how Actisaf® can benefit your beef operation.



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Devon Young Farmers Show & Sale



ROB MACHIN
RUMINANT PLACEMENT STUDENT

On Wednesday 15th April it was the Devon Young Farmers Show & Sale, and what a fantastic day it was!

The standard of livestock on display was exceptional, reflecting the hard work and commitment that the young farmers and the farming community have for this event.

Jasmine Cligg of Culm Valley YFC was awarded Overall Dairy Champion with an outstanding pedigree Holstein cow.

Crediton Milling were proud to sponsor this class, and our very own Matt Holmes had the honour of presenting the awards.

Jasmine's success did not stop there. She went on to win Supreme Champion, a remarkable and well-deserved achievement.





FARM BUSINESS APPRENTICE 2026

We are looking for ambitious individuals to develop a commercially focused farming proposal based on a fictional 250-acre farm in CREDITON.

This is your opportunity to put forward innovative ideas across farming, diversification, environmental schemes, renewable energy, and modern agricultural enterprise.

Develop your proposal, present your ideas, and gain the opportunity to be recognised by leading professionals within the agricultural industry.

Successful applicants will pitch their proposal to a panel of respected industry judges, competing for the title of Farm Business Apprentice 2026.

THE JUDGES



Tim Martin
Dairy Farmer



Di Wastnage
Dairy Farmer



Tom Cleave
Beef & Sheep Farmer

WIN

- £1,500 prize fund
- A day on-farm with each member of our judging panel
- The title of **FARM BUSINESS APPRENTICE 2026**

TO APPLY

Submit:

- A written proposal
- A short video pitch
- An online application form

Scan the QR code to download the Application Pack and apply online.

Applications close: **31 July 2026**

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Please note: The Farm Business Apprentice is a competition-based opportunity focused on business proposals and industry mentoring, rather than an employment or apprenticeship placement.