

Reducing the effects of heat stress

To say it has been a very hot and dry summer would be an understatement. This situation makes animal production more challenging, with food shortages and the chance of animals suffering from heat stress.

Ruminants have well-developed mechanisms of thermoregulation, but their core temperature can't be maintained when exposed to excessive air temperature, solar radiation, wind and relative humidity. Animals with lighter coat colours and lower body condition tend to be more resilient to heat stress, but this may not be sufficient protection. Stress is established when the animals cannot lose the extra heat through the normal physiological pathways (sweating and respiratory evaporation). The most common direct signs of heat stress in farm animals are:

- Increased sweating
- Increased respiratory rate (panting)
- Increased rectal temperature
- Behavioural alterations – crowding under shade, reduced feed intake, standing next to water.
- Reduced fertility
- Reduced milk yield
- Animals stand instead of lie down

In more extreme cases, if the animal can't establish a balance between heat dissipation and thermoregulation the core temperature will rise, and the animal will collapse and die. This might be more likely when the animal already has concurrent health problems.

Heat stress is a problem in itself, but it can also predispose to a lot more health issues. Since in the heat appetite may well be affected, and physiological cooling mechanisms take energy, these animals are now at risk of negative energy balance. So ketosis can become more likely, and with it all the associated conditions of the lower immunity animal. This might include retained foetal membranes, endometritis and mastitis. All of these problems together can cause a huge economic and welfare impact on the farm.

When an animal is affected with heat stress, high respiratory rate and signs of distress, it should be isolated with the provision of shade and cooling ensured. In hot climates, cows are often provided with misting systems to get a bit of moisture onto their backs. This is an ideal way to assist their evaporative cooling, and make-shift systems could be put together in the short-term for animals at risk here. Perhaps this is something we will need to consider as permanent fixtures if this summer is as some are suggesting – a sign of things to come. However, it is important not to suddenly shock a distressed animal, as could happen if doused with cold water. Cooling would need to be done urgently but carefully. The key things are to get the animal out of the sun, and provide water for drinking. In severe cases a veterinarian should be contacted.

The best approach to reduce the effects of heat stress is to provide ways for the animals to cope with the high temperatures.

If they are indoors:

- Check the ventilation (particularly on mild, still days).
- Do not overstock.
- Always have fresh, clean water available.
- Only move the animals during the cooler part of the day (early morning and late evening).
- Maintain good drainage, as humidity can exacerbate heat stress.

Westpoint Farm Vets

Head Office: Westpoint Group Trading, Dawes Farm, Bognor Road, Warnham, Horsham, West Sussex, RH12 3SH.

Tel: 01306 628086 Email: info@westpointfarmvets.co.uk Web: www.westpointfarmvets.co.uk

Company No: 08833557 VAT Number: 1818 536 85

If they are outdoors:

- Provide shade. This is not always easy, but should be considered essential.
- Provide fresh, clean water close enough to avoid animals needing to walk great distances. Also, avoid the use of natural water courses, as these may not be as reliable in drought conditions. They might also be a risk for the spread of infectious disease and parasites such as fluke.
- Provide palatable high energy food, because grass is not very nutritious in these weather conditions.

Sheep and cattle have similar physiological heat response but bear in mind that the wool on sheep works as an insulator, in the cold or heat. Sheared animals are more easily affected by extreme weather conditions but are more capable of dissipating heat through the skin. Since these animals don't have the wool protection anymore, they are more exposed to the sun's rays. Try to shear the animals in small batches in the least stressful environment possible.

Whilst we cannot control the weather, there are certain things that can be controlled to help mitigate the effect of the conditions on the animals. It is vital to do so, both to limit the detriment on performance and to avoid unnecessary suffering. Always provide shade and clean fresh water nearby.

Ricardo Borralheiro MRCVS

Senior Vet at Westpoint Farm Vets York

Ricardo qualified from Porto University, Portugal in 2009. He went on to work in Northern Portugal in farm animal practice for 6 years before relocating to Yorkshire in December 2015. He has a keen interest in bovine udder health and surgery.

In his spare time, he likes to spend time with his wife, family and friends. He enjoys sports, as well as reading books.