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FARM ANIMAL NEWSLETTER—JULY 2023

MANAGING HEAT STRESS IN DAIRY COWS

There is increasing evidence that even the relatively low temperature experienced during the UK summer can lead to a degree of heat stress in dairy cows resulting in depressed feed intakes, lower yields, reduced fertility and increased risk of mastitis. Dairy cows need to maintain a constant body temperature of around 101.5°F (38.8°C). They are constantly producing heat as they digest feed in the rumen and this needs to be exchanged with the air in the environment to maintain this body temperature. Air temperature will directly influence the heat exchange ability of the animal. In addition, air movement (wind speed) increases the amount of heat transfer from the surface of the cow and can also improve evaporation which also assists heat loss. Increasing humidity can decrease the heat exchange and have debilitating effects on the cow.

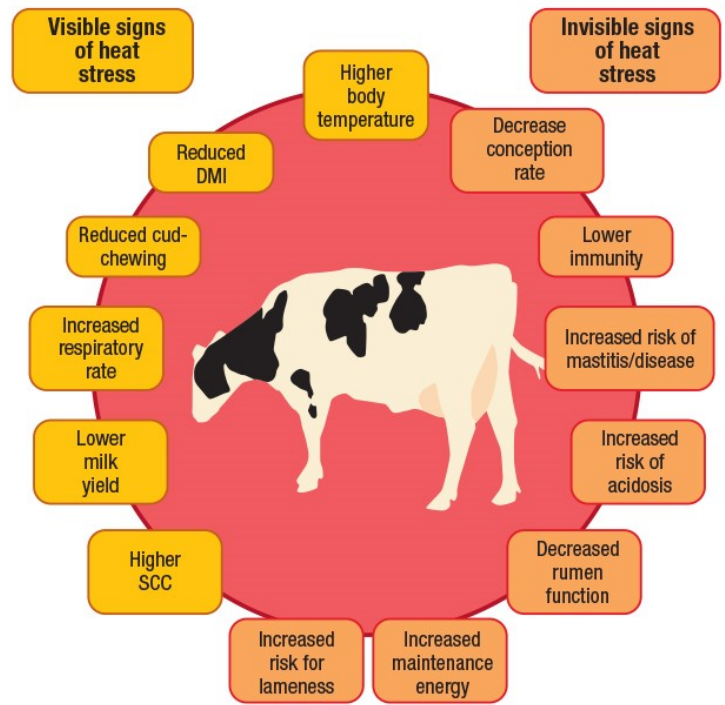
Animals showing signs of heat stress will become lethargic and inactive, will have an increased respiratory rate (over 60 breaths per minute) and pant with their mouths open in an attempt to increase heat loss. Heat stressed cows will have reduced feed intakes, reduced rumination and reduced milk yields. At an air temperature of 29°C with 90% relative humidity milk yields can be reduced by 33%.

As relative humidity increases, the temperature at which dairy cows exhibit heat stress falls. This association between air temperature and relative humidity has led to the development of the temperature humidity index (THI) which is shown below.

When the THI of 72 is reached cows will exhibit moderate heat stress. This level is breached and the cow can become stressed with temperatures as low as 22°C if the relative humidity is high (90%). With relative humidity in the UK frequently above 80% during the summer months and nearing 100% in poorly ventilated winter accommodation the effects of heat stress are likely to be an increasing issue for UK dairy farmers.

Practical management of heat stress:

The most practical methods to reduce heat stress involve providing shade, ventilation and cooling the cows. Simple improvements to basic ventilation of buildings such as opening up side ventilation and ridge outlets will often improve airflow. Installation of a mechanical solution (fans) should only be considered after natural ventilation improvements have been considered and implemented. As temperatures increase cows will drink more. In hot weather water intakes can increase by 10-20% so it is essential that yards, buildings and grazing areas are well supplied with a plentiful availability of clean water. Even lower yielding cows will drink over 100 litres of water per day in warm weather. If cows have access to outside yards or grazing it is particularly important that water is close to shade and a source of feed.



		Temperature Humidity Index (THI)								
		Relative Humidity %								
C		20	30	40	50	60	70	80	90	100
22		66	66	67	68	69	69	70	71	72
24		68	69	70	70	71	72	73	74	75
26		70	71	72	73	74	75	77	78	79
28		72	73	74	76	77	78	80	81	82
30		74	75	77	78	80	81	83	84	86
32		76	77	79	81	83	84	86	88	90
34		78	80	82	84	85	87	89	91	93
36		80	82	84	86	88	90	93	95	97
38		82	84	86	89	91	93	96	98	100
40		84	86	89	91	94	96	99	101	104

No heat stress (Blue)

Moderate heat stress (Green)

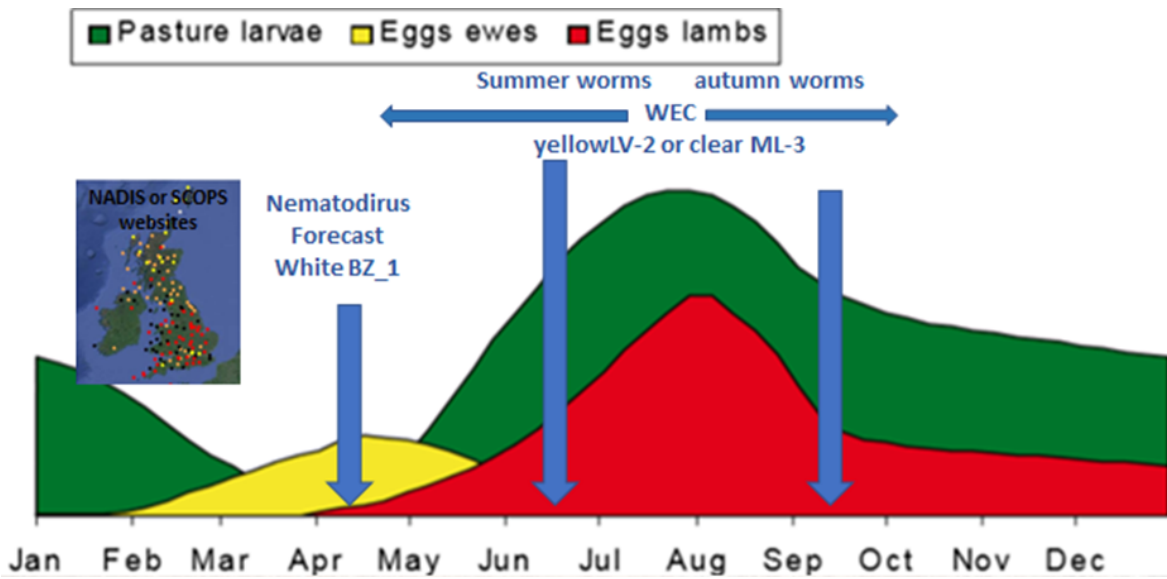
Severe heat stress (Yellow)

Dead cows (Red)

WEC - WHEN SHOULD YOU DO THEM?

To slow down the development of resistance of worms to drugs it is important to use the right wormer at the right time in the right animals.

Our vets and SQPs can advise on the right product to use. In terms of identifying the right time we strongly advise that you use FEC (faecal egg counts) to monitor the level of worms in your sheep and dose only when necessary. We can prevent production loss in the sheep and reduce pasture contamination levels if we get this right.



These diagrams hopefully illustrate when it is most appropriate to target FEC. The timing for lambs and adults differs as adult sheep develop an immunity to worms.

In terms of lambs, we recommend FEC to start from 4-6 weeks of age when they are grazing and potentially picking up worms, and repeat every 3-4 weeks until late grazing season. We have to remember to watch the forecasts for nematodirus

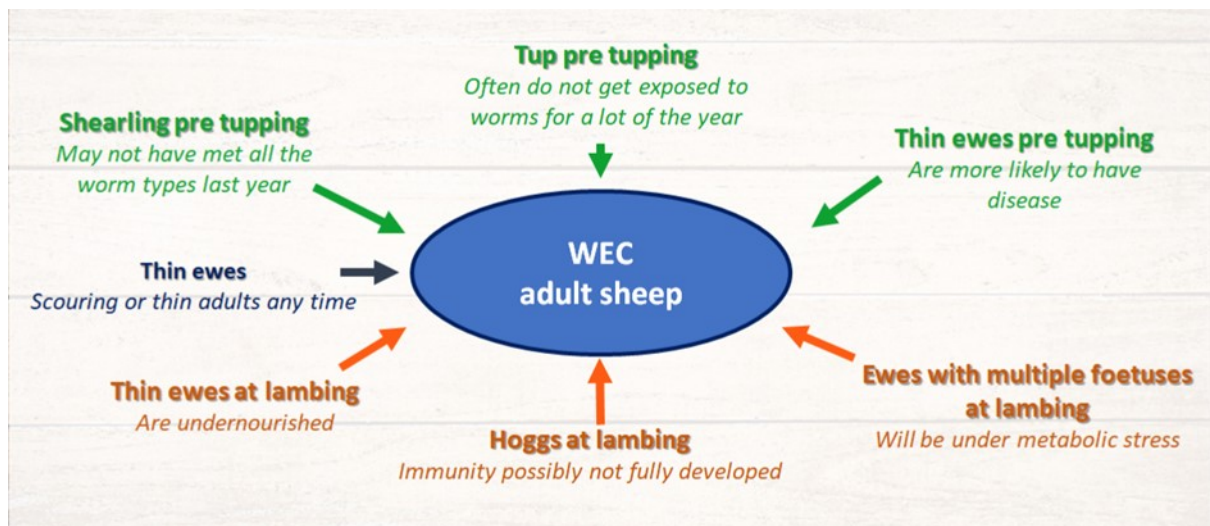
early in the grazing season. Adult sheep develop an immunity to worms, the sampling needs to be more strategic, this diagram summarises when FEC are appropriate.

We have had a lot of questions about haemonchus (Barber Pole Worm) so here are some fascinating facts about this parasite:

- It is a worm that until recent years has only been found in warm wet climates such as Australia and parts of Europe. In the UK it was only Southern England that was affected, we certainly never found disease in the Northwest. Due to climate change and adaptations made by the parasite we are now identifying a small number of cases of haemonchus in the area.

- The female worms produce a high daily egg output (5,000 – 15,000 eggs/day) and the lifecycle is short at 20 days. This means worms can build up very quickly if the weather conditions are right, so we can see acute disease. This also means we have VERY high worm counts if we have haemonchus.

- The adult worms and L5 stage larvae live in the abomasal part of the stomach and suck blood, each worm will remove 0.05ml/day so a sheep with 5000



H.contortus may lose 250ml of blood daily. We see 3 disease syndromes due to this blood loss:

- Sub-acute infections where we see sub-mandibular oedema ('bottle-jaw') and lethargy.
- Chronic disease which causes a more general failure to thrive, with weight loss, poor body condition and sub-mandibular oedema, lethargy and weakness.
- Acute disease results from the ingestion of many infective larvae over a short period of time, often disease develops so suddenly that the animals are still in good body condition. Animals are weak and are likely to collapse if gathered. Pale mucous membrane are striking in affected sheep (we look at the membranes of the eye for the most reliable indication of anaemia). Fast heart rates and respiratory rates are also present. Acute disease can cause sudden deaths.

- The symptoms resemble fluke rather than worms. We do not see scouring sheep or lambs with haemonchus.
- Adult sheep do not develop an immunity to haemonchus as they do with all other worms, we advise that in worm control plans you use the adult sheep immunity to control the level of pasture contamination. If you have the haemonchus worm in your flock treating adult sheep is an important part of the strategy.
- Haemonchus is very adaptable and has developed resistance to wormers very rapidly in countries where it has been a problem. In Australia the problem with resistance is so advanced that all 5 groups of wormers have limited efficiency on many flocks.
- There is a laboratory test that identifies haemonchus eggs from other strongyles. It's called the peanut agglutination test. We can identify this worm species with accuracy.
- There is a vaccine available which is invaluable in the control strategy.



SUMMARY

- Poor nutrition, low mineral status and diseases such as clostridia, pasteurella and the iceberg diseases are much more common causes of ill thrift, thin ewes or sudden deaths than haemonchus.
- Haemonchus does not cause scour.
- Blanket worming of all sheep and especially ewes will result in resistance very quickly if you do have haemonchus.
- Our advice is to worm egg count strategically and postmortem all deaths to screen for disease.

TEASER TUP PREPARATION!

Vasectomising tups to produce teasers can be a very useful management tool, helping to ensure a compact lambing period. The sight, sound and smell of a male sheep causes a hormonal response in the ewes known as the 'tup or ram effect'. These pheromones work to cause a silent heat in all ewes within 2-3 days, followed by a normal fertile heat 17 days later.

- At least 6 weeks before introducing the teaser, make sure that the ewe flock is out of sight and smell of any rams or wethers
- After this introduce the teaser to the ewes for a minimum 3 days, maximum 14 days.
- One fit teaser ram should be enough for 100-150 ewes.
- Then remove the teaser and introduce the fertile ram.
- Ewes and lambs can be separated into batches to assist with management and planning for lambing timing.

Providing the ewe flock were cycling at the time when the teaser was with them, they will lamb in a compacted lambing time. Usually the compacted lambing will consist of two 'peak' periods 6-8 days apart.

Timing:

- Day 0 – Ewes away from any male sheep.
- Day 30 – Introduce teaser to ewes.
- Day 42 – Teaser out, ram in with flock.

Post-operative care for your vasectomised tup:

- **Vasectomies should be performed at least 2 months before you intend to use them.** This is to ensure the wound has healed well and he is no longer fertile
- Pain relief and antibiotic is given by injection, which lasts for 2 days
- Please keep an eye on his wound for swelling or discharge, contact the surgery if you notice any complications
- In hot weather keep an eye out for flies, it may be a good idea to treat him with a fly prevention product but don't put any directly onto the wound.



If you would like more information or to receive an estimate of cost please contact the surgery. **Discounts are given to Flock Club members.**

ANIMAL HEALTH AND WELFARE PATHWAY

The Animal Health & Welfare Pathway (AHWP) is a government initiative with numerous grants available designed to support the improvement of farm animal health and welfare. One of the grants available in this 3-year project is an annual health review. We believe you can apply each year so you will be able to access 3 pots of funding. There are four categories of livestock that you can apply for beef, dairy, sheep and pigs. The annual health review is the first stage of the APHA payments to livestock producers, the second stage in terms of veterinary input is the payment by results of the AHWP reviews and endemic disease investigation grants (lameness, iceberg diseases for example). These additional grants are opening in the next months.

The annual health review involves a visit from your vet to discuss herd/flock health and biosecurity. There is also mandatory laboratory testing which depends on the species involved in the plan. We intend to tailor your review to incorporate any Red Tractor, PCHS or milk contract health planning you have already undertaken and ensure that we can apply for additional funding that is being planned.

How much is the grant worth?

- Beef cattle £552
- Dairy cattle £372
- Sheep £436
- Pigs £684

The grant is designed to cover the cost of 2-3 hours of vet time and the lab fees for the required tests. The funding is payable to you the livestock producer, after the vet visit and lab work is done. The grant cannot be paid directly to your vet, nor can they apply or claim on your behalf.

Who is eligible?

Funding for this annual review is only available to BPS (basic payment scheme) registered farmers with 11 or more cattle, 21 or more sheep or 51 or more pigs. Each holding meeting the requirements can apply for one grant at the moment, however APHA have indicated that a second species will be open to previous applicants soon.

What laboratory tests are involved?

- BVD testing for dairy and beef cattle - if you already routinely test you will not have to do any additional sampling.
- Pre and post drench worm egg counts for sheep.
- Porcine reproductive and respiratory syndrome for pigs.

What is the cost to you?

The fee for the review is £200 plus the laboratory fees.

What do you do now?

You must apply first before the health planning visit or the laboratory tests are done and have an agreement number in place. The timing is important to ensure you receive the funding.

Step 1. Register your interest online through the following link and follow the online process:

<https://apply-for-an-annual-health-and-welfare-review.defra.gov.uk/apply/register-your-interest>

Step 2. Contact us with your agreement number and arrange the health planning visit and laboratory testing. These both must be completed within 6 months of receiving the agreement number.

Step 3. Send the signed declaration back to APHA which we will complete when we write your health plan.

If you are interested in registering or would like to know more please contact the surgery.

CLOSTRIDIAL VACCINES

Whilst there are supply issues with Heptavac P, Covexin 10 and Bravoxin 10 in all sizes, we do have good availability of Ovivac P, Ovipast and an alternative clostridial only vaccine.

If you are requiring clostridial or combined pneumonia/clostridial vaccines, please contact the surgery to discuss the latest situation and what options are available to you.

BESTICO FLY CONTROL

We had a client meeting on the 8th June hosted by Bestico, about the advantages of using parasitic wasps as effective fly control in cattle housing areas. Parasitic wasps are applied to the environment, the perfect example would be calf pens where flies are often an issue. Here the wasps eggs hatch and target fly pupae to break the fly lifecycle and diminish the population. Best results are seen when the wasps are applied during spring to autumn. In addition, the benefits of fly traps in high traffic areas such as collection yards, wooded areas and cow tracks were discussed. Elanco kindly sponsored the evening and spoke to us about their range of fly control products and the advantages of the different pour on applications for fly control and other ectoparasites. For more information or to arrange an on farm fly assessment visit by one of our Vet Techs please contact the surgery.