

Heat Stress in Dairy Cows

As we approach the warmer humid months we should be prepared to manage heat stress in our dairy cows. Whilst South–West Scotland might not be known for scorching weather, relative humidity here is often >80%, which puts cows at risk of heat stress from temperatures as low as 20°C. High-producing cows are especially prone as they eat more and generate more heat which needs to be dissipated.



Consider using Temperature-Humidity Index (THI) meters such as the one pictured above (<£10/unit) to give you an idea of the THI reached in different parts of the farm – **common areas for heat and humidity to accumulate are collecting areas, parlour and return passages.**

Cows stand up to cool down, therefore in warmer humid weather cows tend to stand for longer times than usual. This increases her risk of sole ulcers. Extra standing time also means she spends less time resting and eating, resulting in poorer feed intakes, yield and fertility.

Cows stressed by heat tend to bunch together in darker areas of the shed, as cows associate light intensity with heat.

Don't forget the dry cows! Hot cows don't want to eat, and a drop in feed intake in dry cows is a disaster – managing heat stress is crucial for a successful transition period and healthy calves.

Temperature (°C)	Relative humidity (%)											
	0	10	20	30	40	50	60	70	80	90	100	
18	61	61	62	62	62	63	63	63	64	64	64	
19	62	62	63	63	63	64	64	65	65	66	66	
20	63	63	64	64	65	65	65	66	67	67	68	Heat stress threshold
21	63	64	65	65	66	67	67	68	69	69	70	
22	64	65	66	66	67	68	69	69	70	71	72	
23	65	66	67	67	68	69	70	71	72	73	73	Mild to moderate heat stress
24	66	67	68	69	70	70	71	72	73	74	75	
25	67	68	69	70	71	72	73	74	75	76	77	
26	67	69	70	71	72	73	74	75	77	78	79	
27	68	69	71	72	73	74	76	77	78	79	81	
28	69	70	72	73	74	76	77	78	80	81	82	Moderate to severe heat stress
29	70	71	73	74	76	77	78	80	81	83	84	
30	71	72	74	75	77	78	80	81	83	84	86	
31	71	73	75	76	78	80	81	83	85	86	88	

Ways to minimise heat stress:

- **Maximise airflow** in crowded areas such as the **collecting yard, parlour and return passage** – Open doors, gale-breakers and windows to provide inlets and outlets.
- **Check water troughs are functional, clean and can keep up with demand.** Expect higher demand after milking (upto 60L/cow/milking!) so ensure there is adequate flow rate and reserve if using header tanks.
- Provide **free choice salt licks to lactating cows** but prevent dry cows accessing these as it can affect their calcium metabolism if on a DCAD diet.
- **Check fans are clean and functional** to maximise airflow and efficiency – dusty fans are less efficient.
- **Minimise bunching cows tightly** in holding areas during warmer weather, groups of cows may need to be brought up for milking in a staggered manner to ensure adequate space.



Ark Vet Centre

Your farm's health is in our hands.



Summer 2022 Newsletter



Welcome to our summer newsletter!

This edition we will be discussing heat stress in dairy cows, summer mastitis and beef heifer synchronisation.

Summer Mastitis

WHAT IS IT? Summer mastitis affects the udders of non-lactating cows and heifers during the summer months. In beef herds this can commonly occur when barren cows from the spring calving herd are moved to the Autumn calving herd for later breeding.

CAUSE?

A number of different bacteria act together to cause an infection within the udder. Infection is spread by the head fly (*Hydrotaea irritans*) which tend to live in bushes and trees. Transmission is exacerbated by mild, damp humid conditions meaning cases tends to arise in fields next to woods and hedges.

PRESENTATION:

In the early stages of disease, gradual enlargement of affected teats is observed before the cow eventually becomes sick. However, it is often difficult to notice these early signs, with cows generally being outside, meaning the mastitis is usually quite severe before the cow is spotted. In later stages the affected quarter becomes notably enlarged, hard, painful and hot. The affected cow will isolate herself from the rest of the herd and become stiff and hesitant to walk with a reduced appetite.

TREATMENT:

Prompt medical and veterinary treatment is essential as there is a risk of abortion and death if left untreated. Treatment involves systemic antibiotics often alongside intramammary antibiotic tubes. Use of non-steroidal anti-inflammatories, such as meloxicidyl or flunixin, to reduce pain and temperature also play a vital role in improving recovery rates. Unfortunately, even despite early treatment the quarter is not always saved. To improve response the affected udder should be stripped out as often as possible. It is also recommended to feed calves born from these cows colostrum from another cow as they are often born weak and have high mortality rates.

PREVENTION:

Prevention is best achieved by grazing cows in fields away from areas with lots of trees and bushes where flies are prone to gathering. Fly prevention measures like pour-ons and sprays should also be implemented.



Beef Heifer Synchronization

The use of synchronisation protocols for AI within beef herds is still fairly uncommon; however there can be many benefits and with the correct management pregnancy rates of 65% or better can be achieved to 1st service AI.

Before commencing an oestrus synchronisation programme for AI there are a few key planning points to consider:



1. Selection:

- Most farms breeding replacement heifers should aim to calf at 2 years old meaning heifers need selecting for mating at least 15 months old. Take care when selecting from later maturing breeds (e.g. Limousin cross) as they may be slower to reach sexual maturity and thus contribute to poorer synchronised AI results.
- Heifers must be at least 65% of their mature body weight at first service
- Good selection based on the above points increases the chance of all heifers cycling prior to entering the synch programme which improves results.

2. Body Conditions Score/Trace Elements:

- Calving cows at target condition score for calving improves their return to cyclicity ensuring most will be cycling prior to starting the synch programme.
- Ensure any necessary trace element supplementation (copper, selenium, and iodine) is given well before the start of the synch programme as deficiencies can reduce fertility.

3. Infectious Disease Status:

- Active BVD, IBR or Leptospira Hardjo infection in a group of heifers during a synch programme can have huge detrimental impacts on AI pregnancy rates. Particularly important to consider if synchronising bought in naive heifers.

4. Handling Facilities:

- During synch programmes cattle need to be gathered and handled several times and poor handling systems increases stress and thus reduces conception rate.

5. Choice of programme:

- There are a few different protocols which can make synchronisation for AI seem complicated initially but all follow the same basic principal of using drugs to control the oestrus cycle. The best programme to suit your herd and farm set up can be discussed with one of our vets to maximise practicality and results.

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Other news

In June we said goodbye for now to John Hamilton and Chloe Dunlop who are heading to New Zealand on sabbatical. We hope they have a really great time and we are looking forward to their return in March 2023.



Dates for the diary

Saturday 30th July—10am-3pm St Mary's Open day Dumfries

Thursday 11th August—On farm meeting—Focus on Sheep Fertility with Fiona Lovatt, Flock Health Ltd.

We are also organising a First Aid course appropriate for farmers and a Red Tractor Medicines Matters course — please get in touch if you would like to be involved with either of these.



