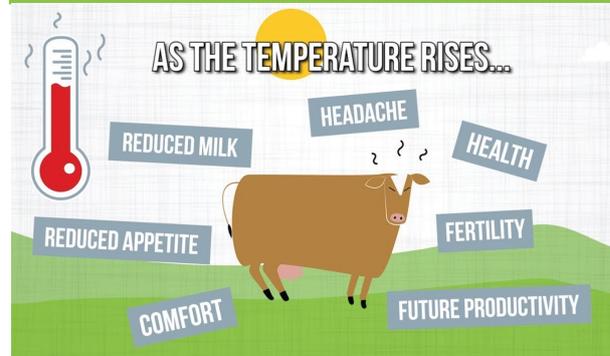


FARM ANIMAL NEWSLETTER - AUGUST 2019

Heat Stress In Dairy Cattle



With the recent warm weather that we have experienced it is worth considering how heat stress experienced during the UK summer can lead to suppressed feed intakes, lower milk yields, reduced fertility and increased risk of mastitis.

Causes of Heat Stress

Dairy cattle need to maintain a constant body temperature of around 38.9°C (101.5°F). They are sensitive to factors which influence their exchange of heat with the environment. These factors include air temperature, air movement (wind speed) and relative humidity. The comfort zone or thermoneutral zone for a dairy cow at which she can comfortably maintain

her body temperature is very wide varying from around -15°C (lower critical temperature) to +25°C (upper critical temperature). At temperatures below -15°C the cow will increase her dry matter intake to keep warm or convert feed to heat rather than produce milk. At temperatures above the upper critical temperature (which we have experienced recently) cows have 2 main strategies to maintain their body temperature:

- Increasing heat dispersion: In particular evaporation by increasing bloody supply to the skin, panting, drooling etc.
- Limiting heat production: This is done by reducing all activity and changing the feeding pattern. As the majority of heat production in dairy cows is due to fermentation of rumen contents the cow will reduce her dry matter intake by 10-30%. She will also become more selective in what she eats—usually less roughages. Periods of reduced dry matter intakes will result in negative energy balance in recently calved cows resulting in increased incidence of displaced abomasum's, reduced fertility, increased susceptibility to mastitis as well as reduced milk yields.

High yielding dairy cows generate more heat than dry cows due to increased dry matter intake and quality of diet—a cow yielding 30 litres of milk per day produces 48% more body heat than a dry cow and is therefore more prone to heat stress. Animals exhibiting signs of heat stress will become lethargic, have increased respiratory rates and may pant with their mouths open and tongue protruding in an attempt to increase heat loss. Humidity has an important effect on heat stress—as the relative humidity increases the air temperature at which a dairy cow exhibits signs of heat stress falls.

Practical Measures To Reduce Heat Stress

- Provision of plentiful supply of clean drinking water. In hot weather water intakes can increase by 20%, even low yielding cows can easily drink in excess of 100 litres of water per day. Any restriction in availability of clean water will increase the chances of heat stress.
- Improvement of basic ventilation in buildings by increasing side inlet ventilation and ridge outlet ventilation. Installation of fans to improve airflow may be considered after natural ventilation improvements have been considered and implemented. In countries with hot climates the use of water sprinkler systems spraying water onto cows can dramatically reduce the effects of heat stress.



SUMMER MASTITIS



Summer mastitis is a condition which is usually seen in non-lactating cows and heifers during the summer months. However, the undeveloped udders of young heifers, bulls and bullocks can also be affected.

SICK COW CAUSED BY SUMMER MASTITIS

Bacterial causes include *Arcanobacterium pyogenes*, *Peptostreptococcus indolicus*, *Streptococcus dysgalactiae* which act together to cause summer mastitis. Transmission of infection is thought to be by the head fly. These flies live in bushes and trees, and can only fly during mild, damp, humid conditions and low wind speeds. Therefore cases tend to be associated with fields next to woods and high hedges.



CLINICAL PRESENTATION

Maiden, in-calf heifers and dry cows should all be well supervised during the summer months. Summer mastitis is often sporadic and early signs can be missed as clinical illness is often unobserved during the early stages.

During the early stages of the disease the affected teat(s) will alter in length and diameter, the heifer/cow will often show no signs of being sick for up to a week after transmitting the mastitis. Often large numbers of flies cluster around the affected teat orifice causing considerable irritation with frequent kicking. Obvious swelling of the affected quarter is associated with development of more generalised signs of illness

including:

- Isolation from the group
- Stiffness and reluctance to walk
- Lack of grazing giving a gaunt appearance
- Joint distension of the fetlock and hock joints
- Rapid loss of body condition

The affected quarter will be swollen, hard, painful and hot, with a extremely enlarged teat. The udder secretion is often thick and clotted with a foul-smell along with green/yellow pus. If prompt treatment is not administered cattle can abort, serious cases are fatal. Even after prompt treatment, the affected quarter may be permanently damaged. Illness leads to the birth of weakly calves which have a high mortality rate. Colostrum sourced from another cow or artificial colostrum is strongly recommended for these calves.



TREATMENT

Speaking to one of the farm vets and discussing the cows condition will allow consideration of the best treatment. Antibiotic injections, intramammary antibiotics as well as non-steroidal anti-inflammatory drugs administered for several consecutive days will treat the infection, swelling and pain.

Stripping out the affected udder should be done as often as is practical possible but be careful as she will be painful due to the swelling of the teat/gland and kicking is common.

PREVENTION

Reducing exposure to flies: Grazing at risk animals on higher, more exposed pastures away from wooded areas and high hedges will help to reduce the number of flies around the cattle. Syntactic pyrethroid pour-on fly control products (e.g. **Butox Swish, Spotinor, Flypor**) will also help to keep flies away from susceptible cattle.



Antibiotic Dry Cow Tubes and Teat Sealants: Whilst most farmers are trying to responsibly reduce their overall use of antibiotics by only using antibiotic cow tubes on animals which are already sub-clinically infected (e.g. high cell count cows at drying off), at peak summer mastitis risk periods, the use of antibiotic dry cow tubes alongside teat sealants at drying off may be considered as part of a control programme. To discuss the various control options, please speak to one of the farm vets.

CATTLE LUNGWORM



Lungworm infestation is caused by the exposure of susceptible animals (first season grazers or older animals without good immunity) to lungworm larvae on pasture. The larvae migrate through the wall of the intestine and into the bloodstream to reach the lungs approximately 1 week after being eaten. Once in the lungs further development takes place into adult lungworms which lay eggs which hatch and are coughed up and swallowed, passed out in faeces onto pasture to complete the lifecycle. The entire lifecycle from ingestion of larvae to new infective larvae being passed out onto pasture takes about 4 weeks. In the worst case scenario an infected

animal can be passing thousands of lungworm larvae per gram of faeces. Lungworm larvae in the faeces are only visible under the microscope but adult lungworms in the lungs are visible as slender white worms up to 8cm long.

CLINICAL SIGNS

Clinical signs mainly involve coughing and increased respiratory rate and is commonly known as 'husk'. This can initially only be noticed when animals are disturbed or moved but progresses quickly to frequent coughing even in resting animals.

TIMING OF LUNGWORM OUTBREAKS

Humidity and rainfall: Rain can disperse larvae in contaminated faeces while warm, moist conditions keep infective larvae alive on the ground. Generally, conditions which favour growth of pasture also favour the development and survival of lungworm larvae which is why outbreaks are most common in the late summer/early autumn. We have already had notification from veterinary investigation centres that they are seeing lungworm cases being referred to them for post-mortem and we have recently seen clinical cases within the practice.

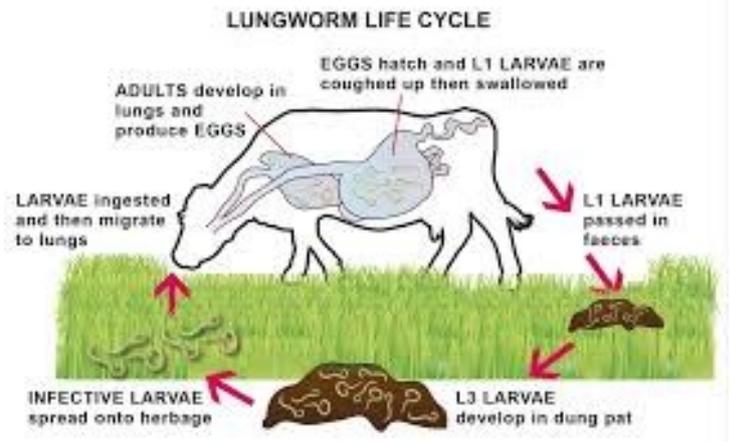
DIAGNOSIS

We can confirm lungworm in the practice by examination of faeces samples under the microscope for the presence of lungworm larvae.

TREATMENT

Treatment of choice is usually a pour-on ivermectin based wormer. **Enovex** pour-on will treat adult lungworm and L4 developing larvae and protect against re-infection for 4 weeks, **Taurador** will treat adult and L4 larvae and protect against re-infection for 6 weeks. Levamisole and white drench treatments will treat adult lungworm infections but have no persistency.

If you suspect that your cattle may have lungworm and want a diagnosis or want to discuss treatment or preventative strategies, please contact the surgery.



FORTHCOMING MEETING



We shall be holding a meeting on the evening of...

Tuesday 10th September

(Venue to be confirmed but near Settle with refreshments provided)

To discuss anthelmintic resistance on sheep farms and devising worming programmes to slow down further development of resistance.

If you are interested in attending please contact the surgery for further details.

QUARANTINE PROTOCOL FOR PURCHASED SHEEP



It's that time of year again when the majority of sheep farmers will begin purchasing sheep to add to their flock. Whether it's tups, gimmer lambs or drafts it is of the utmost importance to protect our existing flock by following quarantine and isolation procedures.

- Firstly, isolate bought in animals for 28 days. The isolation area should be **at least** 2 metres away from other stock and in a different airspace (this means none of the air from the isolated animals will pass over the other animals on the holding).

- All sheep should have their feet examined and good practice is to footbath them 3 times at 5 day intervals during isolation. Consider a foot disinfection mat in the isolation unit.
- Any ill health or abnormalities during isolation should be investigated by seeking veterinary advice; respiratory signs, scour, lameness, swellings, skin disease, etc.
- Vaccinate to the same status as the flock.
- Keep on a fluke free pasture (no snail habitat) for 4 weeks after second fluke dose, or realistically as low risk as possible.
- Hold in a quarantine pasture or yard for 48 hours after worm treatment then turn onto a worm contaminated pasture (i.e. one that has grazed ewes and lambs during the summer).
- Blood sample purchased sheep for scab exposure.
- The animal can enter the flock after 28 days or 14 days after the last vaccine and whenever test results are all negative.

Step 1. Treatment

All sheep brought onto the farm should be treated with a product likely to remove all worms (resistant and susceptible). Resistance is reported in the UK with BZ (group 1-White), levamisole (group 2-Yellow) wormers, ML (group 3-Clear) wormers and now Zolvix (Group 4-Orange) wormer. The recommendation is to treat with 2 broad spectrum wormers which are most likely to kill all worms carried. [The simplest regime which also takes into account a scab risk is Zolvix and Cydectin 1%. However if Footvax has or is going to be used Zolvix and Dectomax injection or OP dip.](#)

Step 2. Holding

Hold sheep off pasture for 24-48 hours, until any worm eggs present in the gut have passed out with the dung. Faecal egg count (FEC) sampling at least 10 sheep where possible, 14 days after treatment will show that the worming regime has worked. Manure produced during this post-treatment period should **NOT** be spread on grass that will be grazed by sheep.

Step 3. Turnout onto contaminated pastures

Bought-in animals should then be turned out onto pasture contaminated with the farm's natural population of worm eggs and larvae. This helps to dilute any resistant worms that may have survived the treatment and rapidly infects the new animals with the farms specific worm population. This shortens the period when any introduced worms are dominant.

LIVER FLUKE

A treatment with fluke products other than triclabendazole is prudent (*resistance to triclabendazole has been reported in sheep, and more rarely in cattle*). Sheep should be kept off pastures for at least four weeks after treatment to prevent resistant fluke being introduced (*infected animals can pass eggs for up to three weeks after the adult flukes have died*). Remember that no flukicide kills all fluke with one dose, immature fluke need to be killed by treating twice.

SCAB

Considering the fact that the resistance of scab to group 3 injections (e.g. Cydectin, Dectomax) was identified in late 2017, and that the use of these products also increases the resistance of worms to clear drenches, this emphasises the importance of using drugs responsibly and of quarantining bought-in and sheep grazed on other holdings. There is a blood sample available for detecting whether sheep have been exposed to scab. This can be used to monitor the disease in sheep grazed on open fells, in purchased stock or as a marketing tool if selling sheep.



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