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Livestock NEWS

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How Effective are Anthelmintics (wormers) in your flock?

Anthelmintic resistance is known to be a threat to the success and future of sheep farming but often we find people are unaware of the status of their own flock. Resistance is the heritable ability of the worm to survive treatment with an anthelmintic, and there are many risk factors which can contribute to the speed at which resistance develops:

- Underdosing- not giving enough anthelmintic either as a result of underestimating the weight of the animal or poorly calibrated equipment allows the development of resistance. Poor storage/dosing technique can also result in underdosing.
- Frequent dosing – every time a wormer is used it increases the risk of resistance developing as it kills the susceptible worms and allows the resistant worms to survive and replicate, thereby allowing the proportion of resistant worms in the environment to increase.
- Pasture management – traditionally sheep were moved onto "clean pasture" straight after dosing which is highly selective for resistance. Instead sheep should be returned to dirty pasture for a few days after treatment and then moved.

By the time that it is obvious that an anthelmintic is no longer effective, such as scouring/poor weight gain despite treatment following a high faecal egg count, it is estimated that at least 50% of the worm population are resistant, something that is very difficult/impossible to reverse.

We would recommend that farms carry out a faecal egg count reduction test (FECRT) to find out their status. If there is a wormer group you use more than others, it would be the best place to start so that you can be confident it is still working as it should be.

How to carry out a FECRT:

1. Collect faecal samples from 10+ lambs. Keep them in individual pots and they will be pooled when tested (The starting count needs to be at least 300epg so lambs in summer are the best animals to sample).
2. Administer wormer.
3. Take second faecal samples from the same animals/ group (timing depends on which anthelmintic group has been used – contact us for advice on when to sample).
4. The totals from the 2 FECs are compared and if the count has not reduced by >95% then treatment failure is suspected. If underdosing is not an issue, then resistance is likely.

If you would like to find out your flock's status please speak to a vet at the practice to find out more. This sampling can also be done through the Animal Health and Welfare Pathway which will cover the cost of testing.

By Shona Mouncy

Measuring the Transfer of Passive Immunity (TPI) in Calves:

It is now well known that colostrum is absolutely vital for all newborn dairy and beef calves in order for them to absorb antibodies from their mother so that they can stay healthy.

4 litres of high quality colostrum (~10% bodyweight) is needed within the first 6 hours of life. It is highly recommended to test all colostrum quality prior to feeding it using a Brix refractometer and we recommend not feeding colostrum with a reading below 22%.

The success of passive transfer to calves can be measured by blood sampling calves that are 1-7 days old and measuring total protein (TP) which we are currently carrying out regularly on many farms.

Recently, there has been a new way of interpreting the results of the TP's rather than simply the traditional pass (above 5.5 g/dL) or fail (below 5.5 g/dL) - see the table below.

TPI category	Recommended % of calves in each category	TP value (g/dL)
Excellent	>40%	>6.2
Good	~30%	5.8 - 6.1
Fair	~20%	5.1 - 5.7
Poor	<10%	<5.1

In a recent study, calves with poor TPI had, compared to those with excellent TPI;

- **a 64% lower chance of reaching first insemination**
- **a 55% lower chance of successful insemination**
- **a 24% lower chance of reaching their first lactation**

If you would like to start monitoring passive transfer on your farm or if you have any other questions then please speak to one of the farm team.

By Paul Kirkwood

Trace Element Deficiency in Livestock:

By Chris Bailey

Mineral deficiency in grazing livestock can be very common and very farm specific. Different minerals are required for different functions in the body and animals requirements vary depending on the stage of production (animals producing milk, pregnancy, or growing youngstock). Some of the main ones to be aware of in cattle are copper, selenium and iodine.

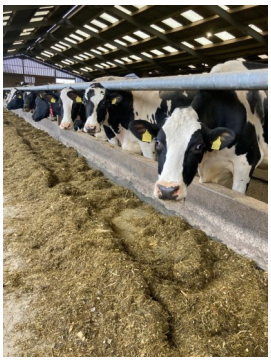
You should always be careful when thinking about supplementing cattle with copper as a lot of commercial supplementary concentrate feeds are high in copper. Copper toxicity in cattle, especially dairy cattle is very common. Pastures can be copper deficient or more commonly the copper becomes locked up by sulphur, iron and molybdenum. The classic clinical sign of copper deficiency is “spectacle-eye” appearance due to changes in the coat making the cow look like she is wearing spectacles. The classic clinical signs of copper deficiency is rarely seen, it more often affects cows in a subclinical manner via poor growth rates and reduced fertility. Rapidly growing youngstock and in calf heifers would be the stock most at risk.

Selenium is important for the immune and muscle function of cattle. Deficiency can result in either a *congenital form* or a *delayed form*. ***The congenital form*** results in a weak calf that is unable to suck unaided and dies within a few days.

The delayed form is due to the effect on the muscles, the signs depend on which muscle group is involved. Skeletal muscles results in a sudden onset stiffness and inability to stand, otherwise the calf is bright, alert and has a normal appetite. Respiratory or cardiac involvement can result in sudden death without previous signs of illness. The pre weaned calf gets most of its selenium from its mother so supplementation of the pregnant cow is important.

Iodine deficiency is very common and is very important for calf survival and vigor. Calves born to iodine deficient dams can be stillborn or weak and unwilling to get going and suck. Supplementation is often provided via the concentrates dry cows are fed but deficiency can occur in dry cows at pasture or in calf heifers at pasture.

As well as copper, selenium and iodine, sheep are also very susceptible to cobalt deficiency resulting in an open fleece and poor growth rates.



There are multiple ways to supplement animals with minerals, each has its own advantages and disadvantages. Cattle housed on a TMR are often supplement via the concentrates fed or a mineral pack. Grazing animals can be harder to supplement. The main ways grazing animals are supplemented are free access licks, drenches, boluses and injections. It is also possible to supplement cattle for iodine by pouring it on the backs in late pregnancy.

Free access licks are ok, they require little labour but the up take can be very variable.

Drenches can be good for short term supplementation but most will only raise blood levels for a couple of weeks.

Boluses and long acting injections are more labour intensive to administer but are very good at releasing a controlled amount of product over a longer period of time.

Each farm and class of stock has different requirements and the best way to check if the current supplementation is working is to do some testing. Please don't hesitate to contact the practice to discuss the mineral requirements and which methods of supplementation might be applicable to your circumstances.

Staff News:

We are delighted to have had some new faces join the farm team over the last couple of months.

Mollie Rudd:

Mollie joined the farm team early last month after spending the last 2 years in mixed practice in West Cumbria. She will be working with both our farm team out of Newbiggin and small animal team out of Dalston. She has a keen interest in youngstock management and is looking forward to working with all clients in this area. Outside of work, Mollie enjoys going to the gym, exploring the lakes with her dog Winnie and collecting Emma Bridgewater pottery.

Graeme Hutchison:

We also welcomed Graeme to the farm team last month! Like Mollie, Graeme will be splitting his time, working out of the Newbiggin practice for farm work and carrying-out small animal work at our Dalston practice. His main interest is bovine fertility and working with farmers to improve the reproductive efficiency of their herd. For the past few years, Graeme has been locuming around Scotland and Cumbria, and travelling Australia and New Zealand! Outside of work, he enjoys rugby, fell walking and building things out of wood.

Chris Bailey:

Chris joined the farm team last month and will be based at Dalston. Originally from Lancashire, Chris has followed his milking cows up to Cumbria after his family purchased a farm nearby. Before joining us, he spent 8 years as a farm vet in the Yorkshire Dales. His main veterinary interests lie in dairy cattle lameness and genomics. Outside of work, Chris enjoys spending time with his two young children and milking cows (obviously!)

Managing Heat Stress in Dairy Cows:

Dairy cows need to maintain a constant body temperature of around 38.8°C. Heat stress occurs when the cows heat load is greater than their ability to lose heat (thermoregulate), resulting in depressed feed intake, lower yields, reduced fertility and increased risks of mastitis and lameness. Both temperature and humidity impact the severity of heat stress experienced (see Fig. 1), so temperatures as low as 22°C with high humidity can cause discomfort also.

Fig. 1: Temperature Humidity Index. Mild signs of heat stress are observed at THI of 68 to 74, and a THI ≥75 will cause drastic decreases in production performance. Source: NADIS

THI - Temperature Humidity Index

No heat stress (<68)
Light heat stress (68-71)
Moderate heat stress (72-79)
Heavy heat stress (80-89)
Severe heat stress (90)
Deadly heat stress (>100)

Temperature (°C) \ Humidity (%)	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

Lactating dairy cows have an increased sensitivity to heat stress compared to dry cows, due to milk production elevating their metabolism. Higher yielding cows produce more heat than lower yielding and so are more challenged by heat stress.

Signs of heat stress:

- Increased respiratory rate
- Open-mouthed breathing
- Decreased milk yields
- Dehydration with varying degrees of severity
- Decrease in activity and appetite.

It is important to note that heat stress does not need to be severe to cause detrimental effects at the herd level, which may include:

- Reduced dry matter intake & rumination - monitor intakes at the feed barrier
- Reduced milk yield - due to a lower availability of nutrients required for milk production.
- Higher SCC - an early indicator of heat stress, due to reduced immunity.
- Reduced oestrous activity- bulling activity is suppressed in heat challenged cows.
- Poor follicular development - low quality follicles and delayed ovulation during heat stress cause reduced conception rates.
- Increased early embryonic loss - monitor for irregular inter-service intervals.
- Increased risk of lameness - cows can increase their standing times by as

much as 30% during heat stress as an attempt to cool down.

By Diane Watson

Implementing some changes of varying simplicity and expense can help to reduce the effects of heat stress on your herd.

Provide more shade - consider bringing cows in or allowing them shed access during the day.

Avoid unnecessary handling - consider worming & vaccinating on cooler days, or early in the mornings before the heat of the day.

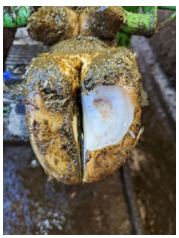
Milk cows in smaller groups - reducing stocking densities will help the cows keep cooler.

Ventilation improvements - simple adjustments to buildings such as opening up side ventilation and ridge outlets to improve airflow.

Increase water access - water intakes can increase by 10-20% in hot weather, with low yielding cows drinking over 100 litres a day in warm weather. Additional water troughs and reducing stock densities can help to improve water access

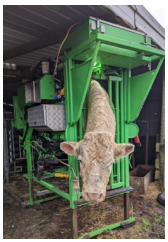
Diet adjustments - consider feeding 60-70% of the diet overnight in the cooler evenings and consider increasing the diet's energy density to mitigate reduced DMI and to help maintain milk quality. Ensure the diet remains balanced and ask for advice should you choose to do this.

Fans & Sprinkler systems - should be considered after natural ventilation improvements have been considered and implemented.



Foot Trimming

We provide a fully integrated **foot care service** and can provide bespoke farm foot trimming. Please discuss with your routine vet , our Foot Trimmer-Peter Cullen **07786712704** or contact the practice for more information.



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