How to keep livestock healthy with vet tests

There are a host of analytical tools available to help prevent the development of health problems in cattle, sheep and pigs. Here, vets from the **XL Vet** group take a look at some of them

COW TESTS – FAECAL CULTURE

* Calf scours are caused by many different organisms — viruses, bacteria and parasites. It is not generally possible to tell the difference between causes of scours just by looking at the dung.

Scouring calves that are identified early are likely to recover. Dehydration is the most dangerous result, so early treatment is essential.

Correcting dehydration is the most important factor in treating scouring calves successfully, however, if an outbreak of scours occurs and calves do not seem to be responding to your normal treatment, contact your vet to discuss the problem and collect some dung samples.

How it works

Samples need to be fresh and are best collected as they are being passed into a sterile pot.

These samples can be tested for the presence of viruses, bacteria and parasites. Parasites require specific treatments and vaccines are available for dry cows to boost antibodies in colostrum for certain bacteria and viruses to help protect young calves, hence the importance in identifying the cause. Usually it's best to submit several samples, for example, four, to ensure the cause can be identified.

BEEF TESTS – BLOOD TESTS FOR PNEUMONIA

* Blood sampling calves that have had pneumonia is a good way to identify pathogens present on farm.

This can help to tailor vaccination protocols in subsequent years. However, it does not help target therapy during an outbreak as it requires antibodies to be present in blood, which take time to develop.

For most viral infections it is not necessary to identify the exact cause during an outbreak. The only exception to this is infectious bovine rhinotracheitis (IBR) because use of vaccines during an outbreak will reduce the number of animals that become infected and the cost of treatment. A swab taken from the nose or eye of suspect cases is usually sufficient.

DAIRY – BLOOD KETONE MONITORING

* Blood ketone testing is a simple test that is easy to use on farm.

When cows are short of energy, they break down their own body tissue (lose condition). It's a common thing for high yielding fresh calved cows to have some sort of "energy gap" and for this to happen. However, when the body tissue breakdown is excessive, or the cow is particularly fat, it will accumulate chemicals in its blood called ketone bodies.

When these reach high enough levels, the cow becomes clinically ill and the condition is called clinical ketosis, acetonemia, or slow fever. Symptoms can include lethargy (hence slow fever), stiff muck (because appetite is reduced), or not eating concentrate in the parlour or out of parlour feeders. More severely affected cows can be excitable, wobbly, or continually lick metal pipework. These cows are said to have "nervous ketosis".

Some people can smell ketosis on the breath, or even in the milk. It smells like pear drops, or nail varnish remover.

How it works

There is a very widely available little gadget (found in most Boots stores), about the size of a stop-watch, which can very accurately measure ketones in a drop of blood. The gadgets are routinely used by human diabetics — mainly for blood glucose measurement, but also for ketones. A drop of blood (for example from the tail vein) is put on a test strip inserted in the machine, which gives a numerical value for the ketones in 10 seconds. Below 0.9 is considered normal; above 1.4 is usually associated with quite obvious signs of ketosis.

The test can be used for routine monitoring of fresh cows to assess transition cow management. This is particularly useful when done in conjunction with testing pre-calvers for another blood metabolite, NEFA (non-esterified fatty acid), but there is no cow-side test for this. Alternatively, the test is used on suspect ketosis cows.

PIG TEST – SKIN SCRAPES FOR MANGE

* Mange is a parasitic skin disease caused by the mite Sarcoptes scabiei var suis. It has significant economic effects — reduced growth rates in growers and finishers, poor feed conversions and downgrading of carcasses in severe cases. It can also predispose pigs to other skin conditions such as greasy pig disease and can lead to increased piglet mortality (if nursing sows are affected) and boars becoming reluctant to work due to the discomfort caused by lesions.

How it works

Testing involves taking skin scrapes from irritated areas or, more simply, from collections of earwax (with a teaspoon) from restrained pigs. Using a microscope, your vet can examine samples for the Sarcoptes mite.

SHEEP TESTS – BLOOD TESTS FOR PROTEIN

* Individual wasting, thin adult sheep is something every sheep farmer will see from time to time. When this occurs in more than 1% of a flock, diagnosis from a vet should be sought in case it signifies the start of a major flock problem.

In some cases appropriate treatment followed by adequate nutrition can restore body weight, and the sheep can realise cull value, rather than needing a knacker man to cart them off.

How it works

If nothing obvious is found on a clinical exam, for example, molar teeth misalignment, then often the vet will take a blood test to check two levels of blood protein: Albumin, which tends to be low in protein losing conditions and Globulin, which can be raised in inflammatory diseases.

These tests, which are often done that day at the vet's surgery, are relative inexpensive. Depending on the ratios, they can help provide indicators for straight protein losing conditions such as Johne's, and chronic infections such as lung abscess, or fluke. While there are other causes of wasting, these tests can be a quick, cheap way to rule certain common conditions in or out.

ON FARM TEST

* Was a piglet born dead or was it neonatal death? Post-mortem the dead piglet and cut out a small section of lung. Drop it into a bucket of water. If it floats the piglet was alive at birth, if it sinks it was born dead. It then gets recorded correctly.

Comments provided by Emma Fishbourne, Synergy Vets; David Stockton, Chapelfield Vets; Neil Laing, Clyde Vets; Joe Henry, Alnorthumbria Vets; Owen Atkinson, Lambert Leonard and May.