



Goats can carry the virus for years before showing any symptoms

# A cautionary tale: Caprine Arthritis Encephalitis in goats!!



**O**n a dull, Friday afternoon last November, we had some rather devastating news: Coriander, our 18 month old Anglo Nubian goatling returned a positive result for CAE. CAE (Caprine Arthritis Encephalitis) is a contagious viral infection, typically passed to a kid via its mother's milk (and also through shared milk/pooled milk) but also through bodily secretions including blood and faeces. The Encephalitis part affects the kids who, if infected, usually die in their first few months due to paralysis, muscle weakness and atrophy. The Arthritis part affects adults who may not show any symptoms for a while but when they do, they can be acute: weight loss, swollen joints - especially knees - and lameness. CAE also causes an indurative mastitis!

Like many viruses, animals can be affected and show no symptoms for years and they may also carry the virus, but not test positive for years. Once an animal has it, there is no cure and despite having the potential to live without symptoms for some considerable time, the only real option is to cull. The economic impact of having CAE in a commercial milking/meat herd can be enormous! In this country CAE is not rife but it exists; the BGS (British Goat Society), currently suggest there is an infection rate of just 3% in tested animals. Some goat keepers are part of the CAE Accreditation Scheme, administered

by SAC (Scottish Agricultural College) and as such, undertake to abide by a strict set of criteria to keep CAE out of their herds. Such criterion includes a 3m boundary between their goats and all other animals, non-admission of any untested animals onto their land and their own regular testing. Some keepers, such as ourselves, undertake yearly testing, usually just before mating. Many owners of stud animals won't allow their males to mate with anything that is not CAE negative. As with other such tests, results are given as a percentage: 0-50% being negative, 51-59% inconclusive and 60% and over as positive!

Coriander's result was 67% which came, we can tell you, as one helluva shock!! However, both my vet and the vet we spoke to at SAC (once she has been apprised of my herd history), felt this 'could' be a rare false positive and



The BGS don't recommend testing goats until they are a year old

that a retest was definitely the way forward. This was great to hear but didn't stop days/weeks of worry as well as heartache and guilt!!!

We only have six goats, three Anglo Nubians; Coriander, her mum Sorrell and Tarragon, a wethered half-brother to Coriander; Onion, a Boer nanny and her six month old AN/Boer daughter Garlic and a Guernsey/AN called Pebbles.

So, why might Coriander's result have been a false positive?? Well firstly, Coriander's mum Sorrell had tested negative two years running and she would be Coriander's most likely source of infection (although against this was the fact that as already stated, goats can carry the disease but initially not test positive for it!). In addition, the other three adult goats were also negative and in the case of two of them (Onion and Pebbles) had, like Coriander's mum, been negative two years running. Tarragon, like Coriander, was only tested for the first time in November (the BGS only recommend testing once the kid is over 12 months old, as prior to that it is unlikely enough antibodies will have built-up to show the virus as being present). Then there is our biosecurity: in the two years we have lived on our current holding the only other goat that had come onto our land was also CAE negative. We are also not near any other goats and animal movements on and off our land are generally quite limited!!

Against us however, was the fact we have sheep that can carry a very similar virus called Maedi Visna (MV) and they are not tested so 'could' be a possible source (albeit a very improbable one). Secondly, false negatives are quite rare: the CAE test has a 'test sensitivity' (true positive rate) of 98.4% and a test specificity (true negative rate) of 99.3%.

Nonetheless, we were advised to do a retest. There were two reasons for this, one was that a genuine error 'may' have been made and the second was that in some rare circumstances, a 'cross-reaction' can cause antibodies to be raised in the goat due to something entirely unrelated to the CAE virus!! The retest had to be done three weeks after the first one and so we had an agonizing wait, compounded by the fact that whilst the first test results came back after four days, we had to wait two weeks after the second test to hear the results, essentially giving us over a month of worry!!

Despite the 'positive' slant on all this from the vets (isn't it irritating that the word 'positive' can have such two highly contrasting meanings), it was hard to spend time with the goats every day knowing that we may need to cull Coriander and possibly her mum too. Just as hard was wondering how on earth we would break the news to the friend we had sold four kids to this summer, two of which were from Sorrel, the same mum as Coriander! We played a lot of mind games in that time!!

And then the phone call came, on a Monday morning!! And the result: a miniscule THREE PERCENT, 3% being about as negative as it can get. The relief was enormous, even our vet (not prone to displays of emotion) sounded a little overwhelmed!!

After the phone call we headed straight out to the goat barn to have words with Coriander and her 'antibodies', and told her quite firmly, never, ever to put us through that again!!! She looked us in the eye(s) with zero understanding of what had been said and simply looked hopeful that she may be about to get a second breakfast!!!

We had (prior to the results of the second test) asked the vet at SAC why we ought to believe the second test if it came back negative and shouldn't we actually be going for a 'best out of three'. It wasn't that we wanted to go

► Sorrel and Coriander, mother and daughter, we thought we might lose them both!!



CAE is most commonly transferred via the mother's milk

through all the stress and worry again, rather that we didn't want any niggling doubts! Her response was a 'no' (and a laugh). She explained that with our herd history and current practices as they were (very little movement, understocking, living outside, etc) that they, along with a new negative result, would make her (the vet) 'VERY confident' in saying that the first result was indeed a false positive.

We had written down what she said, word for word and re-read it after getting the 3% news!!! And then thought how amazing it was that life being 'back to normal' could feel so good!!!!

There was a time during all this when we vowed never to test again, not to put ourselves through the stress and worry and, with no plans to expand our herd, not to feel too guilty about it!! Plenty of goat keepers don't test for CAE and with just 3 in a 100 tests being positive, the odds are quite low after all.

But then, as with vaccinations, where people who don't vaccinate (be it

goats, dogs, etc) will tell you they don't because the risk of disease is minimal, the reason it is minimal is because so many people 'do' vaccinate and as such, year-on-year, the instances are (potentially) reduced. So in testing (and then culling as appropriate), CAE instances must surely be reduced too. As with all livestock, surely there has to be a collective responsibility to ensure the survival of individual species and breeds by both the smallest smallholders through to the largest commercial producers! We are all back to normal now, our goats are hopefully in kid and we are looking forward to spring with our usual giddy excitement, and knowing we have a CAE-free herd (for now), is a great feeling too!!!

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