Maedi Visna Disease Outbreak At Stonefieldhill Farm

Background-

Stonefieldhill Farm was a MVA pedigree sheep unit which ran 500 Pedigree Texels and 150 Pedigree Suffolk ewes. From these 2 flocks around 120 Shearling rams were sold at Kelso ram sales each year.

In July 1997 The farm undertook its biannual routine MV blood test. Given the size of the flock only a proportion of the adult sheep were tested in keeping with the MVA scheme rules. The results showed evidence of MV in the tested animals. A further test of the entire flock showed that 35% of the flock were tested positive for MV.

Evidence of the disease in the flock prior to the positive test result-

I was shepherding for my father during that time. For a period of around 12 months prior to the test I had more ewes than before going down with mastitas, pneumonia, foot problems etc and with very little or no response to treatment with drugs!. Our vet at that time was questioning the amount of Antibiotics were going through and when confirmation of MV in the flock was confirmed everything made sense.

Plan of action to remove MV from the flock-

SAC at that time had no remit beyond removing infected flocks from the MV Scheme and recommending to the flockmaster of any MV infected flocks to “de populate”!!.

Given that 20 years of breeding had gone into the Stonefieldhill Flock de population was not really an option.

Initially we took it upon ourselves to remove the MV positive animals following the 1st test and to Blood Test the entire flock again in 6 months time. The next test result 6 months later showed 35% of the previously clear animals were now MV positive, these positive animals were then removed from the flock and another test was carried out 3 months later (the idea being that we would hopefully get ahead of the disease and remove any infected animals sooner!). Whilst the next test results had 20% of the previously clear animals now positive, we were not really making much headway.

Our attention then turned to the AGID test which was used at that time for the MV scheme, the general feeling in consultation with Neil Watt and Gordon Harkis from Moredun was that the test was not sensitive enough to pick up animals which were at a very early stage of infection.

It was at that point and under their guidance that we implemented 3 monthly tests using the “Elisa” test which was a much more sensitive test and produced results much quicker.

After a further 12 months of testing we were beginning to make some headway and levels of MV were down to 1 or 2 animals in every 100 tested. Neil and Gordon could not be sure but were of the opinion that because the “Elisa” was a very sensitive test which throws out a wider net it may be that these positive animals were “false positives”!! None the less these animals were removed from the flock. (Interestingly these positive animals were then re tested 3months later and passed but despite this we did not risk joining them with the flock!. This information was to prove invaluable at a later date!!).
Route back to market-

During the time that the blood testing was taking place a couple of other measures were implemented to spread our options in removing MV from the flock.

Embryo Transfer- The best 25 Texel and Suffolk ewes were super ovulated and flushed on 2 back to back programs. The recovered embryos were washed in “trypsin” to remove any virus before being frozen for future implantation. (The thought process here was that if we were getting no where with blood testing and we resorted to “de populating “ then genetic material had been preserved from the initial flock.)

Snatching of lambs from their mothers at Lambing time- this was probably the most successful method of removing MV from the flock at the lowest cost. It took a fair bit of planning but was well worth it. We synchronized & Ai’d what remained of the OLD infected flock and had plenty of help at lambing. We had to be present at the lambing of every ewe in order to make sure the ewe had not licked the lamb or that the lamb had not taken colostrum from its mother. Lambs were lambed into a waiting basin then whipped away to another shed where several lamb heaters were running to dry the lambs off. (we had to be really brutal with our judgement and if we turned up and a ewe had lamb without any supervision we could not risk snatching the lamb and just left it on her.) Each lamb was given powdered colostrum before being put onto a Volac Milking machine. The lambs were run in groups of 20 per drinking bar and were run according to age and weight. The lambs were then fed milk until they were 7 weeks old or 20kg in weight (which ever came first!). We did this for 3 years to asset strip the old infected flock and reared over 360 lambs over the 3 years. These lambs were tested at 6 months of age and then again at 12 months of age and were clear of MV on each occasion.

The return to full MV status-

finally almost 5 years to the day after the original MV breakdown in 1997 the SGHS agreed that the flock was free from MV despite there being 1 or 2 positive results within every 100 tested (The positive animals we re tested 6 months after being positive with the Elisa test and went clear with the 2nd test were a big catalyst in SA SAC making the decision to allow us back in to the MV scheme!!).

On reflection Neil Watt and Gordon Harkis were of the opinion that MV had probably been removed from the Stonefieldhill flock about 2 ½ years earlier !!.

Positives to come out of the journey through MV -

as a result of grasping the nettle and not taking the advice to just “de populate” alternative methods have been established to remove MV from a flock of sheep and SAC have now adopted a protocol using the Elisa test at 3 monthly intervals to remove MV from any infected flocks and speed up the return of any flock to full MV status.

A renewed respect for the very privileged position of having full MV status and fellow flock owners should not treat this status lightly or abuse guidelines/ rules there to reduce the risk of MV infection

The cost of an MV outbreak to a flock -

a fairly comprehensive calculation made on the cost of MV to the Stonefieldhill Flock during the 5 years it had no MV status and based on the following-

Blood testing, AI & ET, Artificial Lamb rearing, reduced revenue from reduced number of cull ewes (died before they got beyond 4/5 crop), reduced sale price of Rams sold and reduced numbers
of rams sold, no female sale revenue at all = £250,000.

Points to consider whilst working through an MV outbreak and or Re populating the flock-

During the Stonefieldhill MV problem any lambs from our positive ewes not good enough to be kept were sold into the live market for slaughter. We were then told that dealers were buying these animals and selling them on to other flock owners to be used as breeding stock in other flocks instead of finding their way into the food chain as was intended. When we discovered this all animals destined for slaughter from the SFH flock were sold dead weight to hopefully avoid MV being spread in the National Flock.

When “Re Populating “ always always test the MV Accredited animals sourced to establish the new flock. There is a very good reason for this, generally if you can source large numbers of breeding females from an MV accredited flock that flock will be quite substantial in size and to that end according to the rules of the MV scheme the flock will only test a “proportion of their flock every 3 years”, and on past experience there could be MV in that flock of origin at a low level.

In conclusion-

if MV is present in a flock of sheep, measures need to be taken asap to remove the disease from the flock if infection levels are low enough?. MV infected animals are very inefficient and highly infectious to other sheep.

Non MV accredited flocks should do some screening for the disease periodically, the cost of blood testing is “money well spent” !!!!.

Where possible source Breeding replacements from MV accredited flocks!!!