

Testing for Diseases

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By eradicating disease we improve animal productivity and welfare. It pays dividends and increases market opportunities whatever the size of the sheep flock. An eradication policy involving a strict test and remove programme, linked to good biosecurity, will improve the viability of the farm.

To be absolutely certain a flock is free of a particular disease you must test every sheep with a completely reliable test on a regular basis. However, a full flock test, let's say every year, is not practical and no test is completely accurate, so what is the way forward? The PSGHS testing programme has been designed to take the reliability of the test into account and in order to show freedom from most diseases it is sufficient to test a subset of the flock, but the required sample size is tied to conditions. The number of sheep tested depends on:

- The flock size
- The accuracy of the diagnostic test
- The suspected number of diseased sheep, if disease is present
- The certainty of a flock being free from disease

This is why, in reality, the proportion of animals tested in smaller flocks is higher than tested in larger flocks. To illustrate this, if we want to be 95% certain that no more than 2% of the flock are infected with a particular disease and we know the test will only detect 98% of infected animals we will require sample sizes like the ones shown here.

Flock size	Sample
61	60
100	79
900	140

What may confuse in the beginning makes sense on reflection. The larger the flock, the more infected animals can be expected, but to prove that disease is present in a flock we only have to find one infected animal, irrespective of the size of the flock.

Flock size	2% infected	Prove flock is not free
61	~ 1 animal	1 positive animal
100	2 animals	1 positive animal
900	18 animals	1 positive animal

So for example, to prove disease is present in a flock of 61, a single positive sheep must be found and hence almost all animals will need to be tested. In a flock of 100 with 2 positive sheep, you have a good chance to find at least one by testing 79. If you find none, the flock is very likely to be free from infection, but there is no certainty. With Maedi Visna (MV) and Enzootic Abortion of Ewes (EAE) the same logic applies although sample sizes differ because of the accuracy of the diagnostic tests used and the minimum number of infected sheep expected.

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Scrapie Genotyping (SAC approved for export testing)

Many of you use SAC for genotyping sheep for scrapie susceptibility.

Defra has now given permission for these SAC results to be used for export purposes. The blood samples used must be taken by your vet and the submission form must state the sheep's full identification number including its UK flock number. This ID number will appear on the test certificate.

The appropriate forms can be downloaded from the website.

Enzootic Accreditation

EAE ACCREDITED

Sales this year have shown a big demand for sheep from flocks accredited free from enzootic abortion (EAE accredited).

At a Highland Mule sale the gimmers averaged over £147/head, a massive rise of £61 on the year. At the renowned Lairg sales prices also rose significantly on the year.

Many flockmasters throughout the UK are seeking sheep of a known status and after several years of a poor sheep market some confidence has returned and the benefits of being in the EAE scheme are being seen.

REMEMBER if you are in the MV scheme you do not have to pay a second membership. You will only pay a blood test charge of £2.50 per ewe on a proportion of your flock. For details please contact the PSGHS office.

New Staff Member

The PSGHS office welcomes Emma Kesterton, administrative assistant to the office manager, Karen Sanderson, at Inverness.

Already many of you will have phoned the office and spoken to Emma.

The volume of work handled by Emma and Karen in Inverness is huge and quite often the phone lines are 'hot'. We can only apologise if you cannot get through at first attempt and your understanding is appreciated.



Maintaining vigilance and reducing costs are key to keeping disease at bay... not thoughts of abandonment!

John Yates, Chief Executive, Texel Sheep Society

In my role as Chief Executive of the largest Membership of Pedigree sheep in the UK, members often ask me why it is so essential to maintain MV Accreditation.

Whilst there is optimism within our industry with regards to prices, long-term challenges remain. All successful businesses must manage costs effectively. Breed Society members not on the National and Club Sale and Show circuit are beginning to question the value of MV Accreditation as they strive to maintain their margins. Members are concerned that they are not getting any return on their investment in the scheme. However, I believe that MV accreditation must be seriously considered as a safeguard against the risk of flocks contracting the disease. After all, the cost/benefit of insurance is always based on perceived risk, and the reduction of risk brought about by the scheme is itself a return on that investment. Maintaining MV accreditation of a flock has long-term benefits in the present climate and remains more cost-effective than eradication.

The level of disease within Great Britain is low, but this can be seen as being due to the success of the MV Accreditation Scheme over the last twenty years. However, small clusters of disease have appeared in recent years, causing misery and severe disruption to what were perceived to be low-risk and

Why be a SMS Member?

1. **To facilitate exports:** In order to export sheep and goats to our EU partners, breeders must be able to ensure compliance with regulations contained within Annex VIII for a period of three years. For the majority of breeders, membership of the SMS is the only practical way in which to provide the required documentation to enable this. For the non-SMS member, the obligation is on the Official Vet (OV), who must sign the required documentation, to study all your past records and ensure compliance. In many instances OVs will find this totally impractical without the guarantees and recognition that come with SMS membership.
2. **To improve the marketability of your stock:** The existing SMS membership need to buy stock from other SMS flocks/herds, or, in the case of sheep, have to ensure any purchased animals have ARR/ARR status. So not being a member of SMS can reduce your market opportunities.
3. **To provide assurance:** Membership of SMS is a reassurance to your customers and to yourself that sheep are of a certain status.

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healthy flocks. Therefore, maintaining vigilance is still of paramount importance.

It is widely recognised that there are other diseases on the horizon that we must secure ourselves against, and this will involve further costs. Blue Tongue 8 Virus is one such threat. However, MV remains a significant threat and it cannot be managed through vaccines and simple blood-testing regimens alone. Comparisons can be made with other countries where MV was recognised as a major threat to intensively managed sheep production and the entire industry. It is therefore essential that here in Great Britain we continue our efforts to prevent the spread of this disease amongst pedigree flocks, for the benefit of the whole industry.

I understand that this is a contentious issue, as margins continue to narrow for businesses. However, for the short-term at least, working with the SAC PSGHS to reduce delivery costs is by far the best way of developing and modernising the scheme. It is more sensible to continue work on containing this wasting disease than to abandon the scheme altogether. The offer of the PSGHS to help breeders with the financial implications of testing was most welcome. Now it is essential that efforts be made to simplify the administration of the scheme, in order to reduce costs, fees and bureaucracy for members. This should not involve pushing the administration to breeders where it is not welcome.



Numbers to Test

Gaining and keeping accredited status for either Enzootic Abortion, (EAE), or Maedi Visna, (MV), depends on proving freedom of infection through blood sampling groups of sheep at regular intervals. To be 100% certain no trace of either disease was present the entire flock would need to be tested.

However that is neither practical nor cost effective. The compromise is to test a number of animals sufficient to allow the detection of low level infection within a flock. Should any positives be found action can be taken to reduce disease spread and minimise losses.

The numbers of sheep tested in the routine periodic blood test for MV will enable the detection of positive animals 95% of the time if 2% of the flock are infected.

In qualifying tests larger numbers of sheep are sampled in order to increase the odds of finding infected animals. Failure to blood sample the correct number of sheep reduces the chance of identifying disease and undermines the validity of the health scheme. **If too few sheep have been tested we will ask your vet to collect more blood samples.** This will delay the issue of your Health Status Report and may mean that you are unable to attend shows or sales. Tables indicating how many animals to test are sent

New Tests

PSGHS recognise that the cost of a vet on the farm taking the blood sample for MV, CAE, CLA or EAE is significant.

It has been suggested by many breeders that we could do more testing with the samples taken.

Thoughts are to use samples for genetic markers, parentage typing, mineral/vitamin status, etc.

However your thoughts would be appreciated as we want to provide a service valued by you, our client.

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annually to your vet and are also available on the SAC website or from the PSGHS Office.

It is also important to target test those sheep most likely to pose a risk. **EAE causes abortion and so aborted ewes must be sampled.** So should ewes that gave birth to stillborn or weak lambs. Buying in stock carries an increased risk of introducing either EAE or MV, although risk is reduced if replacements are accredited. **Added animals must be tested for MV.**



New Rules

The rules of the MV and CAE schemes have been redrafted and a copy is enclosed. They can also be viewed on the website www.sac.co.uk/sghs



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SAC Consulting

The Show and Sale season

Peter Fairbank, SAI Global

With the 2009 show and sale season drawing to a close, Angie King, the administrator, has had a busy season approving some 760 Shows and Sales.

It has been good that most shows and sales have been held this season after the last couple of years with FMD/ Blue Tongue and the weather resulting in many cancellations. Entries appear to be down at many of the events, and this appears to be the result of the contraction of the national flock and of breeders no longer keeping sheep.

Lamb prices have been good and the breeding sales have got off to a flying start so there is renewed interest and enthusiasm in the sheep sector. There appears to be good interest in self contained easy care flocks of high health status breeding stock which breeders in the SAC Premium Health Scheme can provide.

We have inspected some 100 shows and sales this season for SAC Premium Health Schemes and in the main have found few problems.

Organisers and breeders have now got use to the new Health Status Reports instead of the old style Green Certificates, although we have still seen our share of expired certificates. It is vital that Stewards check the expiry date of all paper work handed in as an expired certificate or Health Status Report is not acceptable to validate membership of the CAE or MV scheme.

Many organisers now ask breeders to send a copy of their status when they register for the Show Sale and this makes it easier for them to plan their penning area.

Status can be checked by a phone call during office hours but until the new database is live remote checks cannot be made at the weekends.

We have come across some breeders with vet letters or even blood test reports. Again these are not acceptable to verify membership as MV accredited.

Inspections have revealed good separation and penning arrangements to keep MV accredited and non accredited sheep separate, although there have been some near misses in the judging ring where MV accredited and non accredited sheep are in the same class, especially in some championship judging. Here it is important to remember that any surface unless disinfected that has had non accredited sheep on it in the previous 7 days will compromise the status of MV accredited if they are allowed on it.

Judging mixed classes has shown that suitable hand washing facilities have been provided and used, and we have seen the use of antiseptic/ alcohol based hand gels at some events.

With the commercial ram sales now underway it is important to remember that if an MV accredited breeder decides to sell in the non MV section or even at a non MV accredited sale that the sheep attending the sale lose their status and if returned home must be isolated from the MV accredited flock until they have passed two tests, unless sold as non MV accredited.

My advice to all MV accredited Members exhibiting at any MV/CAE accredited Shows and Sales, would be to please ensure that you complete Health Status Reports in full before attending an event, and to event organisers to return them promptly after your event has finished. *These reports provide vital information* if there is a flock breakdown, so that we can trace any animals in contact and test if necessary, to minimise the impact of a breakdown.

The Maedi Visna accreditation scheme relies on all members complying with scheme rules at all times both on farm and at shows and sales. By breaking the rules you could not only be jeopardising your own status, but also that of your fellow breeders.

Remember this is your scheme, if you have any ideas on improvements please get in contact with the Board members so they can be discussed and implemented if approved.

Reminder for
Scrapie
Monitoring
Scheme
members
attending shows
and sales

SMS members are reminded that any female sheep (or goats) taken to a show or sale should **Not be Pregnant**. Depending on the time of year and the breed/s involved, female sheep attending such events must also be accompanied by a declaration from the owner stating that these rules have been followed.

The organisers of SMS approved events will also be reminded of these rules. We therefore urge all SMS members to ensure that they comply with the rules and if in doubt contact the PSGHS office for clarification before moving animals.

Your SMS status and those of other breeders at the event could be at risk.

The full rules of the Scrapie Monitoring Scheme may be found at www.sac.ac.uk/consulting/services/i-r/sghs/schemes/scrapiemon/

Member expelled from MV accreditation scheme

A flock owner has been removed from the MV accreditation scheme following the discovery that they were attempting to sell non-MV accredited stock as MV accredited.



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Update on Johne's Disease in Sheep and Goats

Brian Hosie, SAC

Johne's Disease should always be considered when you are faced with a thin ewe or doe. Among the other diseases to consider are cancer, parasites (especially fluke and Haemonchous worms), scrapie and abscesses. Johne's is normally a cause of sporadic losses among sheep and goats. The disease is now of greater concern, particularly to the goat industry, but also to sheep farmers due to:

- Increased concern about possible risks to human health
- An increase in Johne's in cattle
- Establishment of Johne's accreditation and eradication schemes for cattle
- Possible wildlife (rabbit) reservoir

The key points to remember are:

- Johne's is caused by a bacterium belonging to the same family as tuberculosis
- Infection is picked up by lambs and kids in the first weeks of life from a contaminated environment
- The bacteria invade the gut wall, causing changes that affect the animal's ability to absorb protein. This results in wasting. Affected sheep and goats waste over a period of months. Unlike cattle, diarrhoea is not a feature in these species.
- The disease is always fatal
- Lambs/kids from affected dams should not be retained
- Postmortem examination of affected animals is the most reliable means of diagnosis. However blood or milk can be tested to find out the extent of the disease within the unit.

Control:

Many commercial dairy goat enterprises routinely vaccinate kids in the first three months of life using a cattle Johne's vaccine. This approach is generally highly effective and may be appropriate for any dairy sheep enterprise that cannot show freedom from Johne's infection. The approach adopted in other enterprises depends on the extent of the infection and the breeding objectives of the unit – pedigree stock for sale or animals for slaughter. Vaccination is not appropriate for units buying-in replacement breeding females. Owners of high quality breeding stock may not wish to vaccinate for fear of losing markets for their animals. In that situation a regular test-and-cull approach, possibly allied to the establishment of an elite nucleus of breeding animals, may offer the best approach in the longer term. In any event, the control of the disease should be discussed with your own veterinary surgeon, who is best able to provide advice tailored to your individual enterprise.

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Maedi visna – do not take the risk

The last MV survey undertaken in GB estimated that 1.5% of flocks and 2 in 1000 sheep were infected with MV. From current information the level of MV infection in non-accredited flocks across the country has probably doubled, though anecdotal reports suggest that in some areas the level of infection is much higher.

A survey of 152 non-accredited flocks in 2002-3 found that 3.3% of flocks showed evidence of infection with MV. For flocks going through qualifying tests for MV accreditation the average number of those found to be infected with MV is 2.2% per year.

For flocks that are MV accredited there is a 20-30 fold reduced risk of becoming MV infected. Of those MV accredited flocks that have broken down just over 50% have non-accredited stock in the same ownership.

If a flock breaks down with infection then other flocks in the scheme are put at risk through attending shows and buying replacements. Scheme members have a significant responsibility not just for themselves but others in the scheme. It takes a minimum of 12 months to regain accredited status after a breakdown. The process is also costly because stock cannot be sold as accredited and all sheep over 12 months old must be blood sampled at least twice but often on three or four occasions.

The MV accreditation scheme has been very successful in keeping the risk of MV infection at low levels. The disease is out there and all breeders must be vigilant.



Testing for MV and EAE

Some members are testing for both of these diseases. As the cost of the veterinary visit needs to be minimised it is crucial that the testing of both is done at the same time. EAE testing should be done within 3 months of lambing and has to happen every year. If you need to move your testing date for MV please liaise with PSGHS office.

Reducing the Risk of MV infection - Important Rules

The MV virus will only survive for a short time outside the body. It is mainly transmitted by close nose to nose contact through aerosol droplets carried in the breath. However the virus is also present in other body tissues and can be found in fluids such as colostrum, milk, blood and saliva. The MV accreditation scheme rules are designed with this in mind.

- 1) **Keep accredited stock separate from non-accredited stock at all times with at least a 2 metre gap.**
- 2) **Single gates between accredited and non-accredited sheep are not acceptable.**
- 3) **There must be a seven day gap between fields being grazed by non-accredited and accredited stock.**
- 4) **Equipment which may draw blood such as needles, ear taggers or tattoo equipment must not be shared with non-accredited flocks.**
- 5) **Separate dosing guns are required for accredited and non-accredited sheep.**
- 6) **Handling facilities and livestock trailers must be cleaned and disinfected before use by accredited stock.**
- 7) **Accredited and non-accredited sheep cannot be transported together unless they are separated by solid partitions and they have separate loading and unloading access.**
- 8) **Colostrum and milk from non-accredited sheep cannot be used in a MV accredited flock.**
- 9) **Only semen and embryos from MV accredited stock can be used in an accredited flock. All embryo recipients must be MV accredited.**

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