

PSGHS NEWS

Premium Sheep and Goat Health Scheme in conjunction with SRUC


SAC
CONSULTING

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Maedi Visna hits Commercial Flocks

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Maedi Visna (MV) is a virus which causes losses in sheep due to ill-thrift, pneumonia, mastitis and occasionally lameness. Disease develops slowly in the affected sheep, but also in the flock as a whole, with problems only becoming apparent when a significant proportion is infected. It could take several years to reach this stage.

Our practice found a commercial flock in North Devon was heavily infected with MV though using the SAC Consulting Veterinary Services (SACCVS) thin ewe package. The farmer requested that Torch Farm Vets investigate the reason for poor condition in ewes, high ewe mortality and poor growth rates in lambs. Twelve thin ewes were selected for testing, of which eight were MV positive. Further testing revealed that over 60% of the flock was infected. Unfortunately by this stage there was no alternative but to cull the whole flock- a huge cost to the farmer, both economic and emotional.

Torch Farm Vets have observed that MV is becoming more prevalent in commercial flocks. Whenever farm records show sub-optimal performance such as high culling rates or ewe mortality there is cause for concern and screening of older and thinner ewes for MV would be highly recommended. This discussion should take place as part of the annual flock health review.

In another commercial flock, which we recently identified as positive for MV after screening, we found that the infection was bought in with ewes from another flock where MV had previously been diagnosed. This demonstrates how quickly and easily the virus can spread from flock to flock with sheep movements fundamental to the UK industry. Higher risk movements are cull ewes passing through live markets, and frequent purchasing of non-MV accredited rams. It is only later that the devastating effect of MV becomes apparent, and without MV accredited commercial flocks to source replacements from, we can only predict that the problem is going to get worse.



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Maedi Visna on the march

Our labs now regularly diagnose MV as a cause of disease in commercial, non-accredited flocks. Usually the losses caused by MV are substantial by the time a diagnosis is sought. These outbreaks are a tragedy for the farming families involved as often there is no alternative but to disband the flock and start again. Losses of about £30/ewe/year are typical for a commercial flock. In a pedigree flock the losses are much higher. If anyone doubts the impact of MV in animal health and welfare, they should look at the short video about MV on our website. It is illuminating.

Owners of MV accredited flocks should take two points from the spread of MV in the non-accredited

sector of the industry. Firstly, strict adherence to the biosecurity rules and conditions is now even more essential because of the increasing threat of MV. Your neighbour's sheep could be carrying the disease and a breach in your perimeter fencing could let it in. Similarly at markets and shows be alert and report any breach of the rules to the organiser and our PSGHS Office.

Secondly, there is a greater opportunity than ever for you as vendors of MV accredited breeding stock to extol the benefits of buying MV accredited animals to prospective buyers. Owners of non-accredited flocks can reduce their risk of buying in this terrible disease by buying your animals.

The importance of testing added animals

There were eight breakdowns in MV accredited flocks in 2016. In four of these flocks, the positive animals identified, were animals which had been purchased from accredited flocks in the previous two years. We contacted the flocks that had sold the positive animals and arranged for them to perform a flock test (unless they had carried out a routine periodic blood test since the sale of the positive animal). Fortunately there was no evidence of MV infection in any of the selling flocks. The source of the infection was not conclusively identified. In two of the four cases the animal was purchased through a sale which could have been a potential source of infection. If you have any concerns that there has been a breakdown of biosecurity at sale with contact between accredited and non-accredited stock please contact the PSGHS office. We investigate any potential breaches of biosecurity.

The purchase of animals poses the biggest threat to biosecurity on holdings that keep only MV accredited animals. The rules stipulate that these flocks should test any added animals within 12 months of purchase. You may even wish to consider isolating and testing added animals before adding them to your flock. One of the above flocks identified the positive animal through this added animal testing. If the purchasing flock owner had not tested it may have been a further two years before the

infection had been identified, by which time the infection could have spread through the entire flock.

If you are concerned that purchased animals may have had contact with non- accredited animals or there have been any breaches in biosecurity we recommend that you isolate the animals for six months and test them before adding them to your accredited flock. It is not worth taking the risk.

Other potential risk factors for breakdown

- On holdings where there are non-accredited animals present it is contact with these animals that poses the biggest risk. Remember that equipment such as dosing guns etc. can spread MVV/CAEV. Ideally there should be separate equipment for accredited and non-accredited animals. Infection can also be spread through personnel and clothing.
- Contact with neighbouring flocks/herds
- Animals returning to flock from shows/sales/AI centres
- Mouthing sheep is a potential risky strategy.

The onus is on you, the PSGHS member, to ensure the biosecurity of your flock.

MV diagnostic test results

SAC Consulting Veterinary Services offers a Maedi Visna virus (MVV) testing package for commercial flocks. Any flock seeing more ill thrift, particularly if there is evidence of breathlessness in adult animals, should be tested. Target testing on 12 older thinner animals using the MVV diagnostic test will indicate whether flock losses are due to MVV.

Since the test was launched in 2013, 135 flocks have tested. 26 flocks were infected with MVV (see table 1 below). The owners of 13 of these flocks reported seeing typical signs of MVV including increased number of deaths, problems with thin ewes, breathlessness in adult sheep, lameness due to swollen joints and incoordination. The signs of MVV are not usually seen until around half of the animals in the flock are infected. Therefore these flocks probably have high levels of infection. Infected flocks were identified throughout the UK including the regions of Argyllshire, Northumberland, Lancashire, Yorkshire, Leicestershire, Oxfordshire and Cornwall. A third of flocks affected were Mule flocks however infection was also found in Suffolk, Charollais, Friesland and Blue face Leicester flocks.

Maedi Visna diagnostic test results

Year	Number of flocks tested	Number of positive flocks identified
2013	9	3
2014	34	10
2015	39	4
2016	53	9

MVV infection appears to be wide spread in flocks throughout the UK and owners of commercial flocks need to be aware of the risk of infection to their flock's productivity. Purchase of MV accredited replacement breeding stock is an important step in maintaining a healthy and productive commercial flock.

Breeds in the MV and CAE accreditation scheme

There are 6056 flocks/herds listed in the MV/CAE accreditation scheme. Every breed is listed as a different flock/herd. Lots of flocks/herds will have a number of breeds but the table below shows the breeds with the largest membership.

MV/CAE breed numbers

Breed	Number of flocks/herds
Sheep	
Texel	1609
Suffolk	708 (+ 39 crosses)
Charollais	491 (+117 crosses)
Lleyn	478
Beltex	429
Zwartble	356
Hampshire down	180
Mules	162
Blue Texel	136
Polled Dorset	90
Border Leicester	90
Shropshire and crosses	89
Goats	
Pygmy	16
Boer	14
Angora	8
Anglo Nubian	7
Toggenburg	7

Testing requirements for imported Australian semen and embryos in CAE accredited herds

We have had some queries and concerns from goat owners regarding the use of imported Australian embryos and semen. The testing requirements are summarised below. Full guidelines are available on request from the PSGHS. It is recommended that these are read thoroughly before importing semen or embryos.

Please follow this protocol if importing embryos from non accredited Australian herds:

OPTIONS:

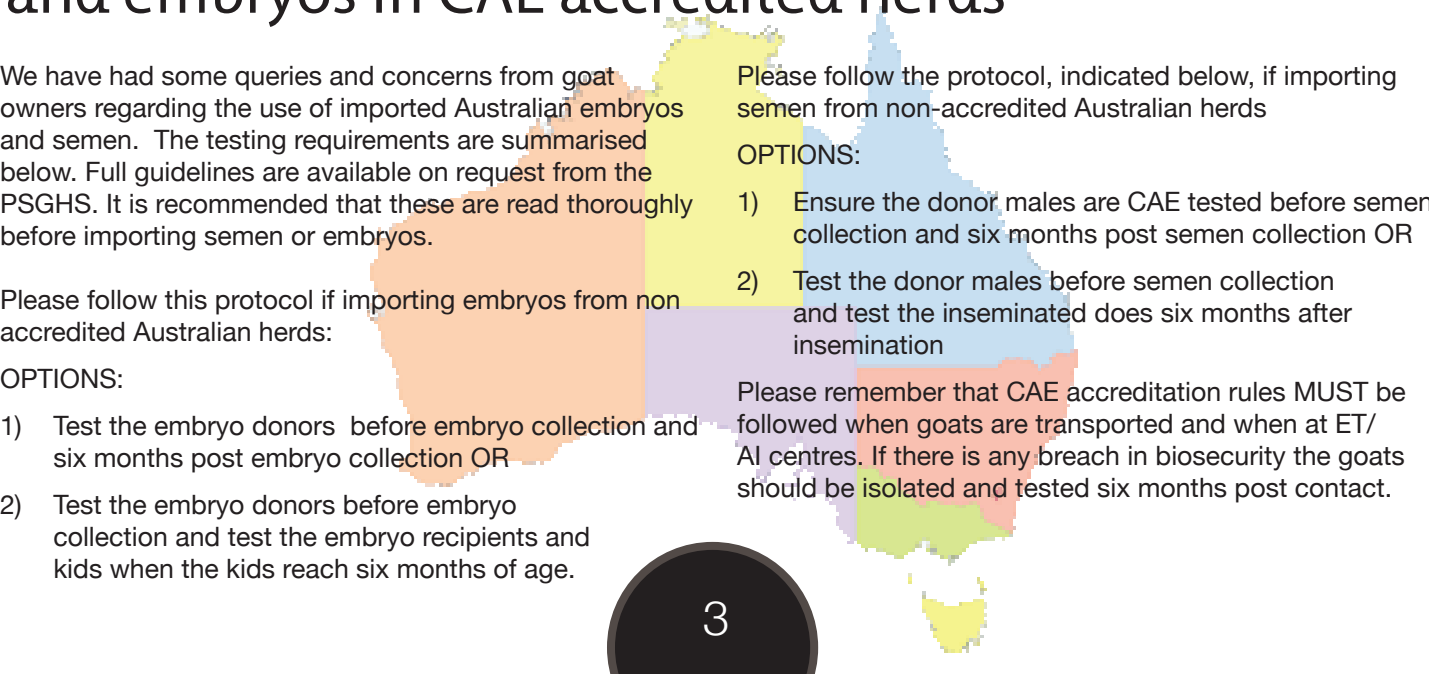
- 1) Test the embryo donors before embryo collection and six months post embryo collection OR
- 2) Test the embryo donors before embryo collection and test the embryo recipients and kids when the kids reach six months of age.

Please follow the protocol, indicated below, if importing semen from non-accredited Australian herds

OPTIONS:

- 1) Ensure the donor males are CAE tested before semen collection and six months post semen collection OR
- 2) Test the donor males before semen collection and test the inseminated does six months after insemination

Please remember that CAE accreditation rules MUST be followed when goats are transported and when at ET/ AI centres. If there is any breach in biosecurity the goats should be isolated and tested six months post contact.



Looking back on how our policies have evolved over 22 years of farming on Bute it is interesting to review some of the things we have achieved, and indeed some of the things that have not been so successful. Having a lateral thinking outlook led us to become the first island QMS Monitor Farmers in 2006, and we were not shy to try new breeding policies and be educated in better grassland management, but one of the greatest areas of progress was made in embracing the importance of the health status of our flock and herd.

Living on the south end of Bute, surrounded by the sea on three sides and already largely breeding our own replacements, we were well placed to maximise these 'gifts' and to embark on a programme of health improvement for flock and herd. Foot rot was one of the first areas to target and we set about a programme of foot bathing (pre-wash, stand-in zinc sulphate and onto dry standing), isolation, targeted antibiotic treatment, use of clean grazings and ultimately culling to achieve this goal.



The time and effort invested in this project made us focus on maintaining this area of health and as many of the other threats that face all sheep farmers, so we reviewed our buying-in policy and isolation procedures. All females are home-bred, as are the terminal tups, bred from the home flock of Hampshire Downs, and we are now moving towards a 5 family system within the commercial Lleyn flock to breed our own replacement rams in the future. At the moment any rams bought in go into a strict isolation programme of strategic use of anthelmintics to rid them

of any resistant worms and fluke, and are not turned out to dry pasture until after their second fluke treatment (triclabendazole on arrival and closantel 6 weeks later). They are also treated for ectoparasites, lameness and started on a new Heptavac P programme. Four years ago we decided to determine our MV status within the flock. Running a pedigree flock of MV accredited Hampshire Downs on the same holding as the commercial sheep was a logistical challenge so we made the decision to test and accredit the whole flock.

In addition to these eradication and accreditation schemes we keep on top of abortion with some certainty that we are enzootic free, and routinely use Toxovax once in every ewe's lifetime before she goes to the ram for the first time.

Looking to the future and with new testing and screening available, we now have the opportunity to close the door on OPA and Johne's, and this is something that we will build in to our pre-purchasing policies for the future.



Our cattle health policy is run along the same lines, and we have recently completed our first whole herd Johne's screening 100% clear and hope to move towards Risk Level 1 PCHS status with our Luing herd.

As a largely stock-rearing farm the value of our produce is in how they go on to perform for the purchasers, and it is becoming increasingly obvious that the attention to health has been one of the greatest investments we have made. With my appointment as Breed Secretary for the Hampshire Down Sheep Breeders Association we reduced the flock this year and found the MV status of the stock to be the greatest selling factor. 200 breeding ewes were sold off farm to a single purchaser, with other buyers eagerly recognising the value of this, above and beyond any pedigree or breeding status.

What do sensitivity and specificity actually mean?

Sensitivity of a test

Sensitivity is the proportion of true positives (infected animals) identified by the test as positive. If a test has a sensitivity of 99%, then out of a total of 100 infected 99 of them will test positive and one positive will be missed. In other words 1% of infected animals will give a false negative result. Ideally we want a test with 100% sensitivity – this means the test will identify all the infected animals.

Specificity of a test

Specificity is the proportion of true negatives (uninfected animals) identified by the test as negative. If a test has a specificity of 99%, then out of a total of 100 animals that do not have the infection, 99 of them will test negative and

one of them will give a positive result. In other words, 1% of negative animals will give a false positive result. Again we ideally want a test with 100% specificity where all negative animals are correctly identified as negative.

While sensitivity and specificity of 100% would be ideal there is no test for any disease in humans or animals that is perfect and no testing system will therefore pick up all infected animals with a 100% certainty or be without the risk of identifying an uninfected individual as positive. This uncertainty is managed by designing a testing programme that accommodates the characteristics of the disease in a herd or flock and the characteristics of the test. Most diseases do not occur as isolated individuals within a flock and this is certainly the case for MV and so perfect

Johne's testing-assessing risk, cattle to sheep and vice-versa

Over the past 20 years there have been important advances in the control of Johne's disease in cattle herds, underpinned by an improved understanding of the risks of introduction of infection. Sheep and goats are amongst the species that are affected by this disease, although certainly in sheep the condition is less well recognised. It was previously thought that the strains of the Johne's disease organism that affect sheep do not infect cattle, but we have become increasingly aware that this is not the case. The cattle strains readily affect sheep and sheep can be the source of Johne's infection for cattle herds.

Therefore if you are a breeder of pedigree stock seeking to ensure the effective management of Johne's disease it is important that you know whether the disease is present

in your sheep flock. The easiest way for those of you that farm close to either an SAC or APHA disease investigation laboratory is to have suspect animals examined at post mortem. This can be done most effectively by selecting several thin sheep scheduled for culling that have no obvious disease affecting them. That is their teeth, udder and feet are normal. These can then be delivered by appointment to the vet centre for euthanasia and post mortem examination.

For those of you where this approach is not suitable then faeces samples from ten thin culls (selected as above) can be sent to the lab for Johne's disease culture and PCR. The samples are pooled in the laboratory and the culture process takes eight weeks.



Johne's Disease-Faecal testing of sheep and goats - why it takes a 'long' time for results

The organism that causes Johne's disease is from the same family of bacteria that cause leprosy and tuberculosis. These organisms are extremely tough

and are exceptionally slow to multiply both in the body and in the laboratory. It can take from weeks to months for this organism to grow to numbers that can be detectable under laboratory conditions. This contrasts with the overnight growth that is seen for the organisms that cause pasteurellosis and clostridial diseases. The material for culture, which can be faeces or tissues collected at post mortem, has to go through a process of decontamination to kill other contaminating bacteria and fungi before being inoculated into a broth that supports the growth of the Johne's organism. This is incubated at body temperature for six weeks. At the end of this period the broth is then examined by PCR for the presence of the DNA of the Johne's disease organism. The whole procedure takes around eight weeks to complete.

The PCR for DNA can be carried out immediately on faeces and tissue samples, but it only detects two thirds of the positives that the culture/PCR system will detect.

sensitivity is not required and flock level accreditation means that individual animals can be traded with a very low risk of infection for purchasers. Conversely using a screening test on an individual animal from a flock of unknown disease status is a risky business that can have low value in preventing the introduction of infection to your flock. Purchases should be from accredited flocks.

More details on www.sheepandgoathealth.co.uk



Vaccinated for Johne's – can we still get Risk level accreditation?

Much research has been carried out on vaccination against Johne's disease in sheep and goats. Vaccination is an important option for the control of this difficult disease, particularly in goats. However animals that are vaccinated against Johne's disease are likely to test positive for antibody in the blood or milk test and so a test and removal or assurance programme must use another method rather than antibody detection when vaccinated animals are present.

Faecal culture for the Johne's organism offers an alternative test for those goat herds enrolling in the Johne's risk level programme that have some or all of their animals vaccinated. When using this technique the faeces are pooled in batches of five and processed. When a pool tests positive for the organism it confirms that one or more animals contributing to the pool is shedding the organism. Where it is necessary to identify down to the individual animal then those making up the positive pool can be cultured individually.

If all pools and all blood or milk samples have produced a negative result then this is a clear test and takes the herd to risk level 2. Three clear annual herd tests take

the herd to risk level 1. If positives are present at fewer than 3% of the herd risk level 3 is awarded; more than this it is risk level 4.

Remember that the risk level assurance for Johne's disease is a whole herd approach that requires a herd health plan to be focussed on the control of Johne's disease. This must be produced with your vet and adhered to.

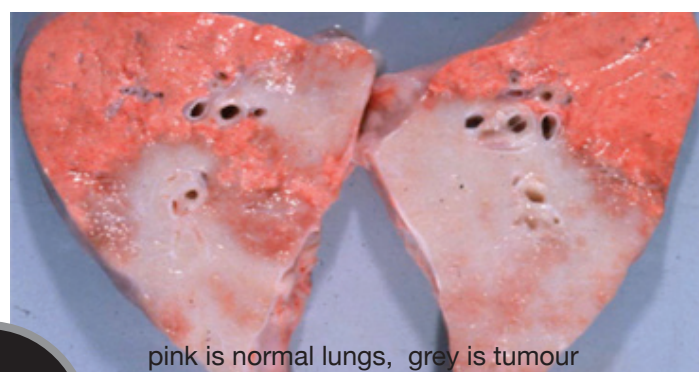


OPA (Jaagsiekte): Did You Know..?

- OPA is an infectious lung tumour of sheep that is caused by a virus.
- During the last 2 years SAC diagnostic laboratories have diagnosed cases of OPA in sheep from 98 different farms in Scotland – this equates to almost 1 new farm a week.
- The disease is present in all areas with diagnoses being made from Dumfries to Thurso.
- OPA is diagnosed in all months of the year with most cases seen between January and March.
- It is most often diagnosed in Scottish Blackfaces and Mules but has also been recorded in 27 other breeds and crosses including Texel, Suffolk, Blue Face Leicester, Lley, Beltex, Cheviot, Soay, Jacob, Charollais, Shetland, Rouge, Highlander, Zwartbles and Swaledale.
- Diagnoses in ewes peak at 4 years of age. The equivalent figure for tups is 2 years of age. OPA has been diagnosed in both ewe and tup lambs less than one year of age.
- Approximately 15% of the diagnoses were made in tups. Investigation was often prompted by the death of a tup within 6 months of purchase.
- "Found dead" is the main farmer complaint in almost half of cases submitted for investigation. The remainder have a history of ill thrift and/or respiratory disease.

- Secondary bacterial pneumonia (almost always due to Mannheimia haemolytica) is a common finding.
- Concurrent infection with Maedi Visna was found in a few flocks.

There is no likelihood of an accurate, affordable blood test for OPA becoming available any time soon. Buying from trusted sources and investigating any problems that could be due to OPA are key measures to take. Livestock Health Scotland is promoting ultrasound scanning of sheep lungs as a screen for purchased animals. Research is ongoing into whether scan and cull programmes are a viable option for the control of this disease. Scanning courses to train vets have been held at the Moredun Research Institute. It should be noted that a negative scan result does not prove freedom from OPA as early lesions can be too small to detect.



pink is normal lungs, grey is tumour

A New Vet for PSGHS

Kath Dun (BVM&S, Cert SHP, MRCVS), qualified from the Dick Vet School, Edinburgh in 1992. After a short spell in mixed practice in Aberdeenshire, she returned to the Dick Vet where she worked and lectured in the Farm Animal Practice for the next 18 years. A move into private practice in Kelso in the Scottish Borders for the next 4 years was followed by a recent move to work as a Veterinary Investigation Officer for SAC Consulting, based at St. Boswells. Kath will be involved with the day to day running of the PSGHS from St. Boswells and is happy to help with any queries or problems which may arise.

Kath is currently also the President of the Sheep Veterinary Society (SVS) and will represent the society over the next 12 months. As the BVA's specialist sheep division, the SVS offers quality advice and support in all matters relating to sheep health and welfare. Representatives from the society sit on many boards, working groups and committees in diverse areas ranging from Government consultations, National Sheep Association matters, veterinary and farmer CPD, BVA council meetings and sheep welfare groups, to name but a few.

"Within the SVS remit to sheep health and welfare, antimicrobial resistance is a very important issue on the agenda at the moment. There is a working party within the committee preparing a paper which will indicate where we stand as a society on this matter. There is no doubt that all efforts must be made to decrease our use and reliance on antimicrobials wherever possible. We must prioritise which drugs we should be using sparingly and look to modifying and improving our management of flocks to allow for less use of products. There is opportunity here for farmers, SVS and organisations like SAC Consulting Veterinary Services to work together on this hugely important issue."



Sheep Scab...why are we still talking about it?

- Because it's still out there and happening in flocks near you!
- Because it is a Notifiable Disease in Scotland (since 2010)
- Because every year since de-regulation of compulsory dipping in 1992 outbreaks of sheep scab have been seen up and down the country
- Because the hard fact is that the sustained use of the products we currently control sheep scab with is NOT going to work forever.....and we need to look at co-ordinated ways to keep our flocks clean for the future, without total reliance on drugs.

Currently OP dips and macrocyclic injectables are the only products licensed for the control of sheep scab. Fewer and fewer farmers however want to, or have the facility to use OP dips and/or dispose of them. As a consequence, reliance on the injectable macrocyclic lactone drugs (eg moxidectin/doramectin) has become huge and product

failure due to resistance issues are already emerging through constant use. This may also be in part because moxidectin is also often regularly used as a worming product in many flocks.

What can we do?

FLOCK BIOSECURITY – this is hugely important in the battle against sheep scab and involves the following points:

- Maintaining fences and boundaries
- Avoiding contact with neighbouring sheep
- Keeping a closed flock where possible
- **Observing strict quarantine and treatments for any bought-in stock**
- Talking to your neighbours
- New Sheep Scab ELISA blood test is an aid to control

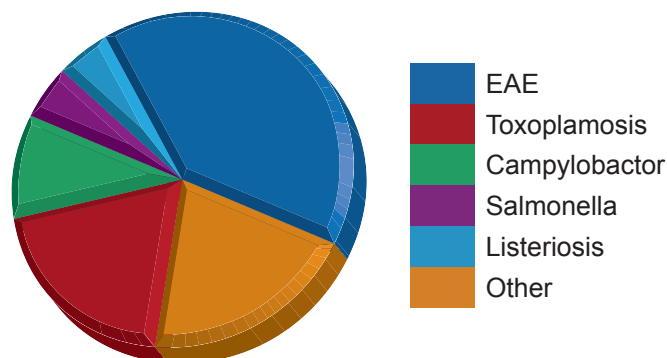
By maintaining good flock biosecurity and possible incorporation of the Scab ELISA test, this could potentially lead to a reduction in use of OP dips and 3ML injectable anthelmintics and preserve them for future use. Speak to your vet now on all aspects of sheep scab control and the use of the Scab ELISA Test on individual animals, or on whole flocks, as a biosecurity tool prior to introduction of new stock and for eradication programmes.



Top 5 Ovine Abortion Diagnoses 2016

The pie chart below does not hold any surprises as it is the usual suspects that cause most of the problems year after year. Our routine testing package focuses on diagnosing these 5 conditions. Additional tests are carried out where warranted.

SACCVS Ovine Abortion Diagnoses 2016



The “other” category contains a wide range of bacteria, (which are usually of minor importance), together with more significant infections such as Border Disease which can cause severe losses in individual flocks.

What might surprise you is that no diagnosis was reached in about half of the 602 submissions we tested this spring. There are many reasons for this e.g. the abortion was not due to an infectious cause, routine testing could not be completed due to missing samples or the samples were too decomposed. For individual flocks we have a better chance of reaching a diagnosis when abortion material from two or more ewes is submitted. Placenta (afterbirth) is very important as we have to examine placental smears in order to diagnose EAE. Unfortunately sometimes the ewe, crows or gulls will beat you to it. If you are unable to deliver foetuses/placentas to your local laboratory then your veterinary surgeon will be able to collect samples to post to us.

Always remember to identify aborted ewes (in case they need to be blood sampled later on) and to isolate them for a few weeks to reduce the chance of any infection spreading to other ewes. Take care – many of the diseases that cause abortion in sheep can also cause disease in people. Pregnant women should never have any contact with ewes around lambing time or any clothing/equipment that has been used around them.

REMEMBER

www.sheepandgoathealth.co.uk for information on PSGHS diseases and testing.
www.psghs.co.uk for the members' database.

Scrapie Monitoring Scheme

Achieving SMS status is a major investment in time and effort so please comply with the rules and conditions to maintain your flock's valuable status. Common breaches are:

- Purchasing from a lower status flock/herd. If your flock has SMS negligible status, purchases can only be from other negligible status flocks or sheep genotyped ARR/ARR. If your flock has SMS controlled status purchases must come from a flock/herd of equal or higher status. Therefore if a flock that has been designated as SMS controlled for 3 years buys from a flock/herd SMS controlled for 2 years, the status would reduce to 2 years unless the sheep was genotyped as ARR/ARR.
- Buying sheep at a sale in the period from September 1st to April 30th when the sale has not applied to APHA to hold a dedicated sale (SMS stock only) or segregated sale (where SMS and non-SMS can both be in attendance). If the sheep are ARR/ARR they can be moved.
- Taking sheep home from a sale having not sold them – OK if they are ARR/ARR or if the sale venue has been authorised by APHA to hold the sale.
- Not submitting animals for TSE testing. The rules state that all fallen stock over 18 months should be submitted for TSE testing to your nearest SAC or APHA centre or to approved fallen stock collection sites. These sites are listed on web pages www.sheepandgoathealth.co.uk

The message is simple – follow the rules. You may have waited 7 years for your valuable flock to get negligible status and a breach could mean you revert to 'square one.'

