

Iceberg disease is a term used in human medicine described as “a disease in which, for every visibly affected individual, the population will contain numerous others that are sub-clinically infected, carriers or undiagnosed clinical cases”. The term covers 5 conditions (discussed below) with each affecting sheep productivity and performance at various stages of the sheep’s life. A recent study suggested that only **5%** of UK flocks routinely test for iceberg diseases and therefore a staggering **95%** of flocks are not optimising productivity!



← Clinically infected

← Infected but not showing signs, carriers and undiagnosed cases

### Border Disease

Border disease also known as “hairy shaker” disease is caused by a virus similar to that of BVD in cattle. It is spread from nose to mouth, from mother to lamb either during or after birth and also from heavily infected rams. Whilst non-pregnant sheep who are exposed to this virus will not usually show any clinical signs, if infected during pregnancy this can result in abortion, normal-born lambs or persistently infected (PI) lambs. PI lambs are born with the virus and cannot fight off the Border disease virus- they are usually unsteady on their feet and instead of normal wool they have hair-like, rough coats hence the term “hairy shaker”.



Border disease or “hairy shaker lamb” -© Farm Advisory Service

### Maedi Visna

Maedi Visna (MV) is a highly infectious viral disease causing weight loss over time, poor performance and increased risk of mastitis. Recent reports show that the number of infected flocks has been increasing (from 1.4-2.8% on average) nationwide. However, Gloucestershire has a rate of **15%**- more than **5** times the national average!

### CLA

Caseous lymphadenitis is a bacterial infection, resulting in swollen lymph nodes- typically around the head in the UK (although other lymph nodes are equally susceptible). When animals are infected, the lymph nodes either side of the head fill with pus and can possibly burst. The bacteria can spread throughout the body resulting in abscess formation throughout the sheep causing weight loss, reproductive failure and reduced milk production. It is mainly brought in via terminal sires.



Enlarged lymph node likely caused by CLA- © Moredun

### Ovine Johnes

Ovine Johnes, or ovine paratuberculosis, is a bacterial infection in the small intestine resulting in poor absorption of nutrients. Over time, this causes weight loss and subsequently reduces fertility. It is usually seen in ewes over 2 years old. It can be picked up in early life when lambs come into contact with faeces containing the bacteria or by drinking colostrum/ milk from an infected ewe. Unlike in cattle, diarrhoea is rarely a symptom so this condition is usually mistaken as a consequence of aging. Ovine Johnes is the only iceberg condition in which we have a vaccine available to help reduce effects of Johnes- however, this should only be used when Johnes has been identified as a problem.

## OPA

Ovine pulmonary adenocarcinoma or "jaagsiekte" is a viral disease affecting the lungs. It causes tumour growth in the lungs which impairs lung function. These tumours also secrete a large amount of fluid (in around half of infected animals) resulting in clear/ frothy fluid dripping or pouring out of the nose. Early on OPA is not apparent as the tumours are too small to cause breathing problems.



Nasal discharge caused by OPA- © Farm Advisory Service

## Effects on KPIs

All iceberg diseases will negatively affect key performance indicators (KPIs) in flocks. A decrease in reproduction rates is common, in the worst cases up to 50% reduction in lamb output has been reported during one lambing season! Maedi Visna will decrease fertility rates by roughly 9% when compared to unaffected flocks; whereas Border disease can range from 2-8%.

Lamb survival, ewe and ram lifespan are also impacted. Growth rates in lambs infected with Border disease can be reduced by 20% (roughly resulting in a 2.5kg weight difference by 6 weeks of age!).

A report in 2019 on the effects of Maedi Visna showed that lambs from infected sheep (showing no signs) weighed nearly 1kg less at weaning, resulting in a loss of £4.07/lamb assuming 20% of the flock is affected (this value will be much higher now considering the current lamb price!). This does not take into consideration cull ewe costs and replacement costs which would result in further financial losses!

## Testing

Due to the nature of iceberg diseases, when we first notice clinical signs, it is usually end-stage disease. However, finding the level of disease present in your flock can be relatively simple.

**Body condition scoring** sheep when they are being handled is a simple, cost-effective way to identify "struggling" sheep- this can then be used to target testing and also influence culling. Blood samples/ post-mortems/ slaughterhouse reports can all be used to get a better representation of disease levels. For OPA, unlike other diseases, we can use ultrasound and post-mortem to screen for its presence. If you would like to know more about testing your flock, then please contact us at the practice.

My hope is to initiate the conversation between farmers and vets regarding "iceberg diseases". Unfortunately, in many flocks eradication of these diseases will not be (realistically) possible- however, that does not mean that managing each disease is a failure. Through routine body condition scoring as well as testing, careful selecting replacement animals and targeting culling, we should be able to improve animal welfare, improve flock efficiency therefore increasing flock productivity and profitability.

Wishing you all the best,

Keir Hamilton



### Useful links:

APHA

<https://ahdb.org.uk/knowledge-library/iceberg-diseases-of-ewes>

Farm Advisory Service

<https://www.fas.scot/livestock/sheep/sheep-health/iceberg-diseases-in-sheep/>

