Animal & Plant Health Agency

Schmallenberg virus update

(Updated January 2024)

Background

Schmallenberg virus (SBV) was first identified in 2011 and the disease has spread throughout Europe. SBV is an orthobunyavirus that affects ruminants and camelids. It is spread by *Culicoides* spp biting midge vectors. It was detected in GB for the first time during 2012, with a large number of cases diagnosed, followed by a decline, and then another peak in 2017, a small peak in 2022 **(Figure 1),** and some recent cases in December 2023 and January 2024**.** It is thought that these peaks and troughs in incidence are related to waxing and waning of national herd and flock immunity. It has also potentially been under-diagnosed in recent years, as vets and farmers may assume gestational SBV infection has occurred if typical foetal deformities are seen, and these incidents do not always get recorded on the GB VIDA database.

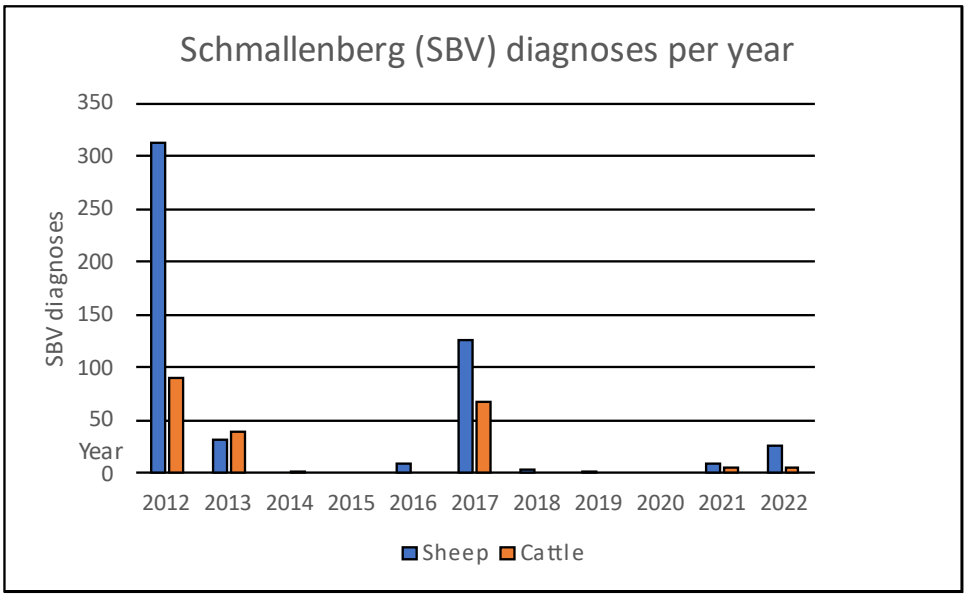

Figure 1: VIDA diagnoses of SBV between 2012 and 2022

A summary of the submissions from 2012 to 2017 was provided in the Veterinary Record (2017) Disease surveillance in England and Wales, June 2017 - 2017 - Veterinary Record - Wiley Online Library

A Survey to determine the farm-level impact of Schmallenberg virus during the 2016–2017 United Kingdom lambing season on sheep flocks was performed in a partnership of the University of Nottingham, the University of Liverpool and APHA.

Vets at APHA VICs and non-APHA partner PME providers are available to provide further advice on unusual presentations of disease such as this. APHA may offer farm visits and **free of charge testing*** for such cases, by prior arrangement with a Veterinary Investigation Officer. APHA VIC, and non-APHA PME partner provider, contact details can be found on GOV.UK.

Congenital disease in sheep and cattle due to SBV

In sheep and cattle, lambs and calves can be born (or aborted) with congenital deformities including arthrogryposis, torticollis, scoliosis, kyphosis, brachygnathia inferior and various malformations of the brain and spinal cord, including hydranencephaly, porencephaly, micro-cerebellum, and thinning of the anterior and thoracic/lumbar spinal cord (micromyelia).

Enhanced surveillance for SBV over the last few years has identified that not all cases of abortion due to SBV will have the typical pathology. Conversely, other diagnoses were made in some of the foetuses submitted as suspect SBV cases. When investigating foetal lesions, vets are reminded to remain alert to the possibility of other differential diagnoses, such as hydranencephaly induced by *in utero* infection with Bluetongue virus - a notifiable disease. If you suspect a notifiable disease, you must contact APHA immediately.

Investigation of congenital disease is by PCR testing of brain tissue, although not all cases will have positive results (depending on whether the virus is still present) as it would be due to a historical infection. The use of serology testing of the dam, with exclusion of other causes, can help in identifying or ruling out SBV.

Acute disease in cattle due to SBV

Acute disease due to SBV occurs in adult cattle, with clinical signs of milk drop, fever, and diarrhoea. Investigation of potential acute SBV related disease is by PCR on EDTA taken from cattle within 3 days of the first showing of clinical signs; or by paired serology with an acute serum sample taken within 3 days of the first showing of clinical signs, and a second serum sample taken 3 weeks after the first.

***Free of charge testing for SBV will be offered during 2024. Please discuss the case with a Veterinary Investigation Officer, to assess the appropriate investigation and samples, and to make prior arrangement for a submission.**