

An update on Schmallenberg Virus in Northern Europe

Situation Assessment

Note: Defra's International Disease Monitoring (IDM) team monitors outbreaks of high impact diseases around the world. The emergence of new vector borne diseases of cattle is monitored and reported when necessary.

1 Disease Report

Since our previous report on the 20th December

(<http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/monitoring/documents/poa-smallenberg-111220.pdf>) there have been significant changes in the disease situation for Schmallenberg virus (SBV) in northern Europe. Disease is currently being confirmed on the basis of a PCR test for viral RNA developed by the Friedrich

Loeffler Institute (FLI) and in use in other European countries. There is no serological test yet, but it is in development. Once available it will provide information about current and past infection as well as exposure in humans.



Belgium has now reported finding virus-positive lambs with congenital deformities on 11 sheep farms in the North Western region of Antwerp, while a further 8 cattle, 3 more sheep and one goat farm have reported deformities (Belgium AFSCA, 2012).

In Netherlands there have now been nearly 160 farms reporting deformed lambs, calves and in three cases, kid goats. Of these, 40 of the 92 sheep farms and 1 of the 3 goat farms are positive but none of the 62 cattle farms (see map to left; Netherlands Ministry of Agriculture, 2012).

In Germany, there are now six cattle premises where virus has been detected. The FLI reported the virus has been isolated and used to experimentally infect three

cattle. Viraemia was observed 2-5 days post inoculation. Of the three cattle, one developed a fever (40.5°C) while a second animal developed moderate diarrhoea. Sequence analysis confirmed the virus is a member of the Orthobunyavirus Simbu serogroup and has been provisionally classified as a Shamonda-like virus (Friedrich Loeffler Institute, 2011). Additionally, the virus has been isolated from the abdomen of one of twin calves which died during parturition (Friedrich Loeffler Institute, 2012).



Current countries affected by reports of Schmallenberg virus and recent consignments of live cattle (since July 2011)

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Actual Scale 1:10,000,000

Map prepared by IDM

The map above shows the geographic distribution of currently affected regions in Netherlands (all 12 provinces), Belgium and Germany. Also indicated are the consignments of cattle which originated in the affected regions and moved to the UK during July – November 2011. The areas of risk from ridge movements from the Belgium and Netherlands coasts during this period are indicated for South East England, according to Met Office modelling of wind direction and conditions during the risk period.

France has also put in place guidance for reporting suspect cases in high risk areas (Alsace, Lorraine, Nor Pas de Calais, Picardie, Champagne Ardennes) which are those with proximity to currently affected areas (ANSES, 2011).

2 Situation Assessment

Although developments have been rapid in advancing the knowledge of this new virus, there are still uncertainties. For example, the prevalence of neonate deformities and abortions in an affected herd, whether newborn ruminants can still be viraemic, what effect immune status has on further pregnancies, whether other exotic ruminants are also affected (such as llamas, alpacas, camelids) and how long the disease has been present in Europe. The lack of virus identification in newborn

infected calves is not unusual for viruses from the same serogroup, such as Akabane virus (Uchida et al. 2000).

No similar reports of clinical signs or neonatal deformities in the UK have been made, but as can be seen for the map above, there are certain areas which would have been at risk of disease introduction.

Animal keepers need to be aware of lambs, calves or kids born between now and late summer and report any abortions and deformities. As infection may have occurred some time ago, it would be difficult to take disease control measures on affected premises. Exotic ruminants, such as camelids, should also be kept under observation.

This is not a notifiable disease, although in the Netherlands it is now reportable; that is, the disease is considered important enough to require reporting to local veterinary authorities, but not necessarily that government intervention is required. Trade restrictions are not in place nor are there any current control measures. This may change based on the Commission taking a view over the next week. According to the initial risk assessment carried out by the Netherlands RIVM and a follow-up risk assessment by the European Centre for Disease Prevention and Control (ECDC, 2011), although there are still some uncertainties, the risk to human health is likely to be very low.

In newborn ruminants and foetuses, suspect cases are considered to be cases of limb and brain defects (such as arthrogryposis [locked joints], shortening of the hamstrings, deformation of the jaw, hydranecephaly, stiff neck) or newborns with neurological disorders, flaccid paralysis, blindness, exaggerated movements, hyperexcitability, feeding difficulties and ataxia.

3 Conclusions

We consider there would be a negligible risk of introduction via infected vectors at this time of year. During the vector season, the risk level is likely to rise but this will depend on what the vector is and its distribution. It is difficult to quantify the risk of introduction of disease into the UK through imports of pregnant animals as little is currently known of the disease epidemiology, however given the numbers of recent imports during the risk period and the current distribution of disease in North Europe, it is a possibility that disease will be found in the UK.

The risk of spread is difficult to quantify until the full epidemiological characteristics of the disease are known. We consider vector borne transmission to be negligible at the current time of year, as the UK would be considered vector free.

Animal keepers are requested to be vigilant and inform their veterinary surgeons of any such cases. Stillbirths, malformations or nervous disease in newborn animals or fetuses born to imported animals should be sent for screening to the AHVLA.

We will continue to monitor the situation.

4 Authors

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5 References

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