

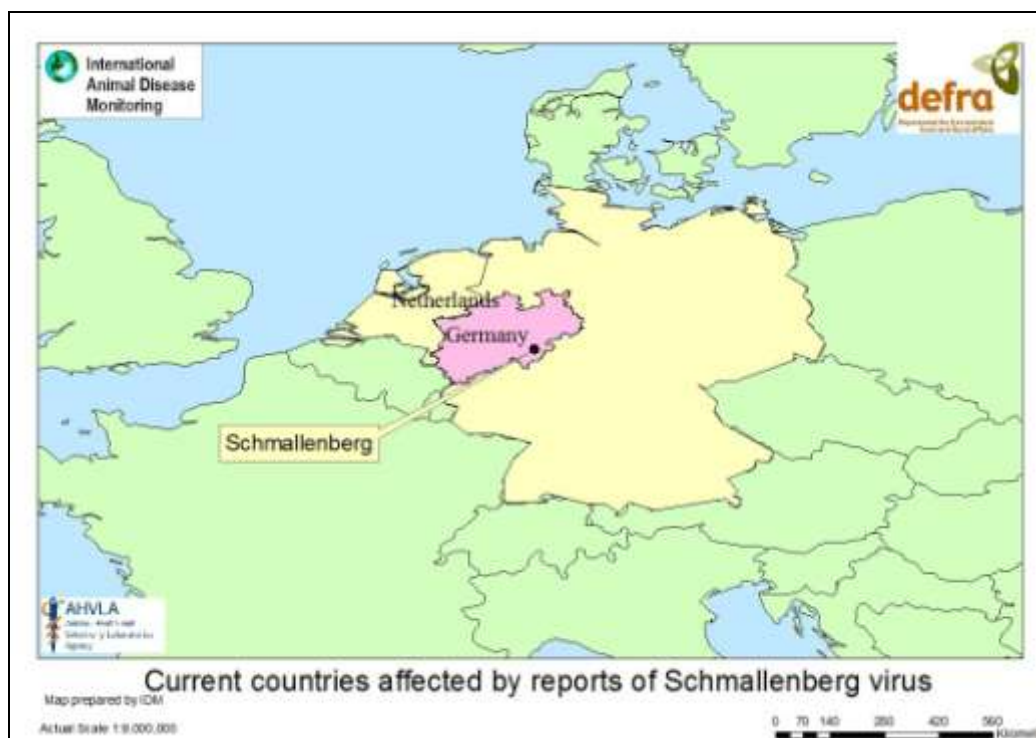
Schmallenberg Virus in Northern Europe: a new orthobunyavirus in cattle

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 the summer months of 2011, both the Netherlands and Germany have reported outbreaks of a disease in cattle, with clinical signs such as fever, reduced milk yield (up to 50%), inappetence, loss of condition and in some cases, diarrhoea. The clinical signs disappeared after a few days and frequency of reports ceased in the forthcoming months. In Germany, these reports were restricted to North Rhein Westphalia (European Commission, 2011). In Netherlands, there were more than 80 affected farms over the whole region. However, although the cattle recovered, there have now been reports of deformities in early stage calves and also in sheep in the Netherlands although there were no reports of similar clinical signs in sheep (Netherlands Ministry of Agriculture, 2011).



More than 100 samples from affected cattle on 14 farms in Germany were sent to the Friedrich Loeffler Institute, and initially were tested for Bluetongue, Epizootic

Haemorrhagic disease, Pestiviruses, Rift Valley Fever and others. All were ruled out. Further investigations could not isolate virus, but using novel techniques such as next generation sequencing and metagenomic analysis (Friedrich Loeffler Institute, 2011) of PCR products nine samples (9%) gave positive results for viral sequences. Of the samples from Netherlands, 18 out of 50 were positive (36%). Analysis revealed these viral sequences had strong similarity to the orthobunyaviruses. This group of viruses includes a subgroup of agents such as Akabane, Aino and Shamonda viruses. The subgroup (the Simu-serogroup) contains 25 different viruses, mainly affecting animals, causing mild clinical disease and transmitted by insect vectors. However infections of early stage foetuses can cause abortion or congenital disorders (European Commission, 2011). The new virus has been named Schmallenberg virus, for the town where initial reports of disease were made.

2 Situation Assessment

There are still uncertainties around this new virus, such as the vector responsible for transmission, the geographic distribution, transmissibility of infected animals and the origin. The virus has not been isolated, and as there is no serology test available at present, serological surveillance is not possible.

Since the UK was made aware of the situation we have been carrying out scanning surveillance in cattle. No similar reports of clinical signs in the UK have been made.

The more recent reports of the abortions and congenital deformities are of concern and heightened awareness in animal keepers is recommended over the coming months. This is because there is a low risk that inapparently infected cattle and sheep may have been imported during 2011 from the affected area. Such animals may have been exposed during early pregnancy with an increased risk of developmental abnormality. Typical deformities in lambs have included crooked necks, hydrocephalus and stiff joints. Most were born dead while infected live lambs did not survive. It may be too early to see the extent of problems in cattle and even in sheep, case rates are not known. Therefore animal keepers would need to be aware of lambs or calves born between now and Summer 2012 and report any abortions and deformities, which may be submitted for testing, particularly if from imported cattle or sheep. As infection may have occurred some time ago, it would be difficult to take disease control measures.

This is not a notifiable disease, and as such there are no trade restrictions in place or any current control measures. It is not possible to consider appropriate control measures until more is known about the route of infection and spread. According to the initial risk assessment carried out by the Netherlands RIVM, the risk to human health is considered very low (Netherlands Ministry of Agriculture, 2011).

According to TRACES, the EU trade notification system, there have been 185 consignments of cattle from Netherlands, totalling nearly 3,000 animals and 51 from

Germany, of nearly 1,500 animals. Many of these animals will be in-calf heifers. For sheep trade, there have been 5 consignments of 38 sheep from Germany and 4 from Netherlands of 63 animals. Approximately half were females.

3 Conclusions

We consider there would be a negligible risk of introduction via infected vectors at this time of year. 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.

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.

We will continue to monitor the situation.

4 Authors

Dr Helen Roberts

5 References

European Commission (2011) New orthobunyavirus detected in cattle in Germany. http://ec.europa.eu/food/committees/regulatory/scfcah/animal_health/presentations/06122011_new_orthobunyavirus_in_cattle_germany.pdf Accessed 12/12/2011

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