"Schmallenberg" virus: Analysis of the Epidemiological Data and Assessment of Impact - DTU Orbit (19/10/2019)

This scientific report provides an overall assessment of the impact of the infection on animal health, animal production and animal welfare of the provisionally named "Schmallenberg" virus (SBV) first detected in Germany. In Europe, 3745 holdings have been reported with SBV cases confirmed by laboratory testing across several Member States, mid May 2012. EFSA reviewed the epidemiological reports noting that SBV has been detected in cattle, sheep, goats and a bison. SBV antibodies have been detected in deer and no other species are known to be affected. EFSA also confirms that new studies support the initial assessment undertaken by the European Center for Disease Control and Prevention, that it is very unlikely that SBV poses a risk to humans. In terms of transmission routes, recent entomological investigations have identified SBV in field samples of biting midges of the Culicoides obsoletus group. Currently there is no evidence of any other route of transmission other than transplacental or vector borne routes. EFSA coordinated the collation of SBV epidemiological data during 2011-2012 in order to obtain comparable data for Europe. The maximum proportion of reported sheep holdings with SBV confirmed was 4% per country and 7.6% per region while for cattle less than 1.3 % of holdings were reported as SBV confirmed at both country and regional level. In order to assess the impact of SBV (spatial and temporal spread, proportion of affected holding and potential projection of arthrogryposis hydranencephaly syndrome cases) three models were used. In regions with SBV confirmed holdings, assuming a high prevalence of infection and post infection immunity, impact in the 2012-2013 calving and lambing season should be low. However, assuming SBV survived the winter of 2011, the models suggest that in unaffected regions with suitable temperatures for within herd transmission by vectors and high density of susceptible species (cattle and sheep) SBV infection is likely to spread. EFSA puts forward a number of recommendations to fill the knowledge gaps, these include but are not limited to: continuing serological investigations in affected regions and regions neighbouring affected areas, within herd and animal level impact investigation, monitoring putative vector population, setting SBV host vector transmission parameters, investigating other routes of transmission, host susceptibility, virulence and vulnerable period during gestation. Furthermore, the possible origins of the virus should be investigated as more information becomes available on the virus characteristics and infection epidemiology.

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