Quantitative Assessment of the Risk of Bluetongue by Culicoides Introduced via Transport and Trade Networks

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In August 2006, a bluetongue outbreak was detected in the Netherlands. It was caused by bluetongue virus serotype 8 (BTV-8), a serotype thought to be of sub-Saharan origin. The most obvious mechanisms for BTV introduction, the import of infected hosts or the transport of infected Culicoides on airstreams, seemed unlikely. Therefore, the import of Culicoides along with or independently from the import of animals, plants or other ‘materials’ was considered as one of the possible explanations for the outbreak. In order to assess the likelihood of Culicoides being introduced via transport and trade networks, a quantitative risk assessment model has been constructed.

Keywords: Culicoides – Bluetongue – Disease transmission – Risk assessment – Transport.

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