INTRODUCTION OF INFECTED *CULICOIDES* BY MEANS OF TRANSPORT OR COMMODITIES

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FIELD STUDIES AND RISK ASSESSMENT

Potentially infected *Culicoides* may be accidentally carried in vehicles associated to the transport of people, animal, plants (cars, planes, boats...) coming from countries where bluetongue virus (BTV) is present. In order to estimate the risk of BTV transmission by the introduction of infected *Culicoides* by means of transport/commodities, a stochastic risk assessment model was constructed. The model was applied to estimate the risk to other countries by the introduction of one *Culicoides* infected with BTV serotype 1 from Spain. There is currently no data on the probability of *Culicoides* being transported by different means of transport/commodities. Therefore, the probability had to be estimated per vector. Four different steps were considered in the transmission pathway: probability of *Culicoides* infection, probability of *Culicoides* surviving the extrinsic incubation period and the time to the next blood meal, probability of finding a new host, and probability of effective BTV transmission to host. The probability of BTV introduction by infected *Culicoides* was highly variable throughout the year, mainly as a consequence of differences in ambient temperatures. The maximum risk was reached in May with a mean probability of 1.7×10^{-8} (per vector). The main limiting factors in this probability were the probability of *Culicoides* infection, and the probability of *Culicoides* surviving the extrinsic incubation period and the time to the next blood meal. Given the low probability obtained for this pathway to be considered as important, the number of *Culicoides* transported by these means should be very high.

KEYWORDS: BLUETONGUE VIRUS – CULICOIDES – HOST – TRANSPORT – RISK.

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