

# QUANTITATIVE ASSESSMENT OF THE RISK OF BLUETONGUE BY *CULICOIDES* INTRODUCED VIA TRANSPORT AND TRADE NETWORKS

S. Napp<sup>1\*</sup> P. Calistri<sup>2</sup> A. Giovannini<sup>2</sup> S. Gubbins<sup>3</sup> I. García-Bocanegra<sup>1</sup>  
A. Alba<sup>1</sup> A. Allepuz<sup>1,4</sup> J. Casal<sup>1,4</sup>

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.

1. Centre de Recerca en Sanitat Animal, Unidad de Epidemiología, Campus UAB, 08193 Bellaterra, Barcelona, Spain.

2. Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale", Italy.

3. Institute for Animal Health, Pirbright, United Kingdom.

4. Departament de Sanitat i Anatomia Animals, Universitat Autònoma de Barcelona, Spain.

\* Corresponding author

Tel.: +34 9 35 81 44 57; Fax: +34 9 35 81 44 90

E-mail: sebastian.napp@cresa.uab.es