

Updated Outbreak Assessment #6

Bluetongue Virus Europe

29 September 2023

Disease report

On 5 September 2023, an immediate notification was made to WOAAH of BTV infections on 4 sheep farms in the Netherlands. This marks the first time since 2009 that the Netherlands has reported an outbreak of BTV. The serotype responsible for these outbreaks has since been confirmed as BTV-3 (WOAH 2023). The route of BTV-3 incursion into the Netherlands is currently unknown. By 29 September, a total of 416 outbreaks of BTV-3 have been reported by the Dutch Ministry of Agriculture, Nature and Food Quality (NVWA) (Figure 1).

On 21 September, the National Reference Laboratory for France reported more than [300 outbreaks of BTV-8](#) in Aveyron with at least one clinical case in the neighbouring departments of Lot, Lozère, Cantal and Tarn-et-Garonne. This virus appears to be an incursion of a new exotic strain of BTV-8, rather than a reassortment of existing endemic serotypes. Find further updates and changes to restriction zones for [Bluetongue across the European union](#) (European Commission 2023).

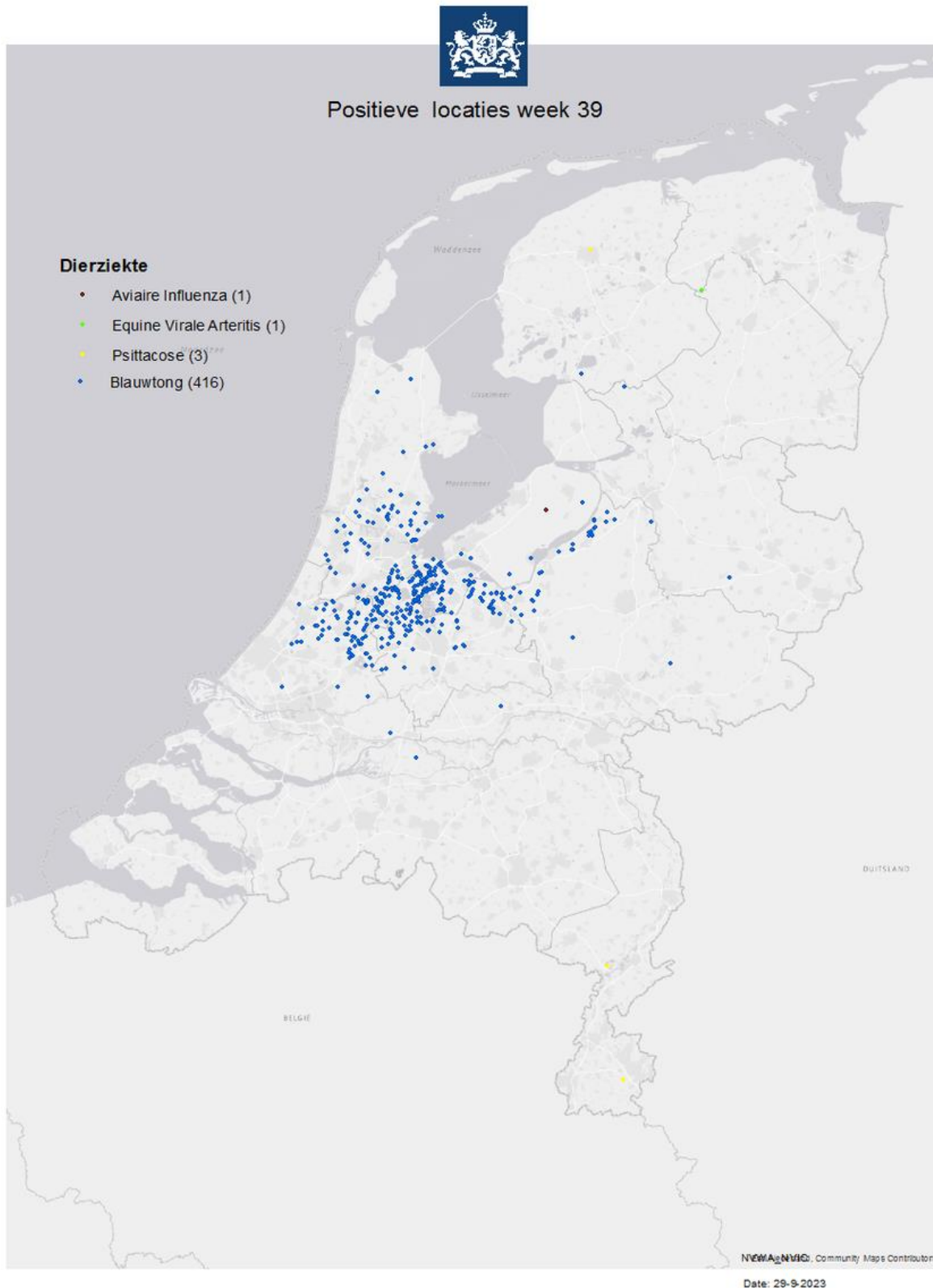


Figure 1: Map showing 416 outbreaks of BTV-3 in the Netherlands reported by NVWA from the 5 September to 29 September 2023, these reports have not been confirmed by ADIS or WOAHP at this time (Available at [Current animal diseases in the Netherlands and Europe | Animal diseases | NVWA](#) , accessed on 29 September 2023).

Situation assessment

Netherlands

Bluetongue was originally confirmed on four sheep farms in the municipalities of Wijdemeren and Stichtse Vecht, following reports on clinical suspicion by private veterinarians. Serotype testing (sequencing) was conducted by Wageningen Bioveterinary Research and was confirmed as BTV-3 by the EU Reference Laboratory in Madrid (House of Representatives of the Netherlands 2023). BTV-3 has been circulating at a very low level in Sardinia, Sicily and southern Italy and was identified as being similar to a strain detected in Tunisia in 2016. Whole Genome Sequencing (WGS) and phylogenetic analysis has verified that Seg-2 sequences of the Netherlands strain of BTV-3 clearly clusters with other (including geographically close) variants of BTV-3. However, high homology across the whole genome has not yet been identified, making tracing the source of the variant difficult ([Holwerda et al 2023](#)).

It is noteworthy that the initial sites are approximately 20 km from Schiphol airport. Initially, the Dutch authorities put into place measures to gain more clarity about the situation in accordance with EU legislation. A contact investigation was carried out with screening of the farms in the infected zone to determine the extent and spread of infection. One challenge with BTV-3 control, is that there is no vaccine commercially available. Existing vaccine serotypes do not confer cross protection making it difficult to control the outbreak spreading into immunologically naïve susceptible species (Cappai et al., 2019).

France

Current WOAHA reports are of two “active” BTV serotype outbreaks in France of [BTV-4](#) and [BTV-8](#). In 2018, both of these events were declared to be endemic and “stable”, meaning that there is no international obligation to provide further follow up reports (FURs) on new cases of infection within mainland France for either of these two outbreak serotypes. Updated information is however required in the six-monthly reports (SMRs) submitted by France to WOAHA. The latest available SMR refers to first semester ([January – June](#)) of [2021](#). However, since the beginning of August 2023, France has reported several clinical cases of BTV-8 in cattle and sheep in the Aveyron Department, located in the South of France. The outbreak has spread in just a few weeks to over 400 establishments, with confirmed cases now in the neighbouring departments of Lot, Lozère, Cantal and Tarn-et-Garonne. The severe clinical picture of pyrexia, locomotion difficulties, mouth ulcers and coughing were unlike the BTV-8 cases seen elsewhere in France. Subsequent sequencing of the viral genome has confirmed this to be a different BTV-8 strain from that which circulated between 2006-2009 and re-emerged in 2015 ([Promed 2023](#)). It has also been verified by The Pirbright Institute not to be a reassortment of circulating BTV strains (personal communication).

Conclusion

The whole territory of mainland France is declared a BTV restriction zone. This means that susceptible livestock cannot be moved to Great Britain without prior vaccination for the circulating BTV-4 and BTV-8 serotypes. It is also important to note that the Culicoides midge population peaks mid to late summer, and at this time (early Autumn) the conditions are optimal for BTV transmission by infected midges ([Plateforme 2023](#)) (Wittman et al., 2002). Vaccines are commercially available for BTV-4 and BTV-8.

The reports of BTV-3 in the Netherlands are of greater concern, as there is no approved vaccine for BTV-3. Therefore, in order for EU intra-community trade to resume, live animals need to be first isolated for 60 days in vector free accommodation and then test negative for the disease, before being permitted to move. Third Country certification however does not permit such movements of live ruminants into Great Britain. As some of these reports are located near to the coastline in the Netherlands, there is also potential for windborne infected midges to be blown across the North Sea if the meteorological conditions are suitable. This would mean BTV disease incursion could occur in the southern and eastern counties of England from the Netherlands. Ahead of suspending trade, all imports of susceptible animals from the Netherlands were subject to post import testing for BTV and all recent imports have tested negative. Trade in live sheep and cattle from the Netherlands is now no longer possible.

Considering all disease incursion routes from both France and the Netherlands, the overall risk of BTV entry has been assessed as **MEDIUM**. As there is currently a ban on the trade of live animals from the affected areas and tracings of imports from the Netherlands in the four-week period prior to BTV-3 being confirmed are complete, the risk to Great Britain is currently from the incursion of infected midges (windborne and via transport) and undetected spread to other areas we are trading with.

The possibility for the windborne incursion of midges from affected areas currently represents the greatest risk to Great Britain and is monitored frequently, with a collaborative effort between APHA, The Pirbright Institute (as vector and disease experts) and the Met Office (who can predict potential airborne movement of vectors into Great Britain using their Numerical Atmospheric-dispersion Modelling Environment (NAME), and provide estimates of climate suitability for spread in Great Britain and on the Continent). The NAME model predicts how many 'plumes' may have been sufficient to enable windborne incursion of midges from sites of interest over a two-week period and where in Great Britain these plumes may have entered. Outputs from the risk assessment are communicated to risk managers.

Other potential pathways for BTV into Great Britain include imports and illegal movement of infected animals or germplasm. There is a potential risk of virus entry associated with the movement of infected Culicoides in other traded or transported commodities. Livestock owners are strongly advised to source replacement stock responsibly and consult with their private veterinarians to put in place controls preventing the introduction of Bluetongue virus. Assurances should be sought from traders to ensure BTV susceptible animals are fully protected with the appropriate serotype vaccination prior to travel. It is also strongly advisable to request pre-movement testing of animals prior to departure as a further check to ensure that animals are clear of infection before they travel.

We would also like to remind keepers that if they wish to move show animals to an exhibition held in a BTV-4 or BTV-8 Restriction Zone on the Continent, and then return them back to the Great Britain (a BTV Free Area), the animals will need to be fully vaccinated against either or both virus serotypes (BTV-4 and BTV-8) prior to leaving Great Britain. As there is no commercially available vaccine to protect against BTV-3, it is advisable not to export live ruminants to the Netherlands at this time.

We will continue to monitor the current situation.

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