



Surveillance for Bluetongue

Background

Bluetongue is a disease of ruminants which has long been present in Africa and southern Europe. It has several serotypes, including serotypes 1,2,4,8 and 16, which have been present in Europe in recent years. Bluetongue was first seen in northern Europe in August 2006 when there was a sudden incursion of bluetongue virus (BTV) serotype 8 (BTV-8), centred on Belgium. Natural spread of the disease was detected in the UK in 2007 but has never been detected in Ireland. While BTV appeared to be restricted to very limited outbreaks in Northern Europe from 2010 to 2014, the bluetongue situation on the continent worsened in 2015, and a large number of outbreaks have occurred in continental Europe since then, with France particularly severely affected.

Importance of Bluetongue

Bluetongue can cause clinical signs including oedema, congestion, swelling, haemorrhages, lameness and abortion. While the economic losses associated with these clinical signs can be substantial, further losses would be incurred due to the loss of the country's bluetongue free status in the event of spread of the infection in Ireland.

Legislation- background

Ireland's active surveillance programme has the aim of demonstration of freedom from bluetongue. Surveillance for bluetongue is largely governed by EU Regulation 1266/2007. Under 1266/2007, sampling must be carried out at least once during the time of year when seroconversion is most likely to be detected. This time of year is understood to consist of the beginning of the vector free period, i.e. late autumn and early winter, in Ireland. Surveillance is required to detect a prevalence of 5% with a confidence of 95%. Ireland used a design prevalence of 1% for its sample size calculations for its 2019 study, and so goes beyond the requirements of 1266/2007. The legislation specifies that cattle are the species to be tested. Ireland's current programme uses serological samples collected at slaughter plants under the cull cow monitoring scheme. Demonstration of freedom in cattle also provides an



assurance of freedom in sheep, as it has been shown that cattle are more attractive to biting midges than sheep.

The European Animal Health Law is likely to replace Regulation 1266/2007 as the legislation governing bluetongue surveillance in future years.

TABLE 1: ACTIVE SURVEILLANCE RESULTS, 2016-2019

The samples tested are geographically representative of the national cattle population. To demonstrate freedom for 2019, samples were collected from October 2019 to January 2020 and tested in spring 2020. All samples were tested in DAFM's Cork blood testing laboratory.

Year	Samples Tested	Number negative	Number positive	Percentage positive
2016	503	503	0	0 %
2017	6,706	6706	0	0%
2018	497	497	0	0%
2019	1,842	1842	0	0%

(Note that a larger number of samples was tested in 2017 than that required to demonstrate freedom, as part of a training exercise in the DAFM Cork Blood Testing Laboratory)

Other active surveillance for Bluetongue

In addition to the active surveillance program to demonstrate freedom from Bluetongue described above, targeted surveillance of imported susceptible animals is also carried out. This involves sampling all ruminant animals and camelids that are imported from mainland Europe for the presence of Bluetongue antibodies and viral genome. Sampling is done as soon as possible after arrival in Ireland and is repeated ten days later to mitigate against the risk of early stage infection or infection during transit.

Passive surveillance for Bluetongue

It should be noted that the active surveillance outlined above is primarily aimed at demonstrating disease freedom to trading partners and mitigating against the risk of importing a Bluetongue positive



animal is supplementary to the passive surveillance which Ireland regards as its mainstay in detecting incursions of exotic disease.

Bluetongue is a notifiable disease in Ireland, meaning that anyone who suspects that an animal may have the disease is legally obliged to notify DAFM.

A leaflet with further information about the typical clinical signs of bluetongue is available here:

<https://www.agriculture.gov.ie/media/migration/animalhealthwelfare/diseasecontrols/bluetonguedisease/BluetongueVets4963.pdf>

Beyond disease reporting, DAFM operates a network of regional veterinary laboratories, strategically located around the country. Farmers and private veterinary practitioners (PVPs) submit large numbers of samples from sick animals to the laboratories every week, and therefore DAFM can be confident that in the event that disease reporting was not effective in detecting an incursion of bluetongue, then laboratory-based passive surveillance would achieve this result instead.

Farmers are encouraged to report suspicions of bluetongue to their local Regional Veterinary office, and to make use of their local Regional Veterinary Laboratory to aid with diagnosis of disease conditions.

Thanks to Cork BTL for providing the relevant testing results data.

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