Updated Outbreak Assessment #12

Bluetongue Virus in Europe

17 December 2024

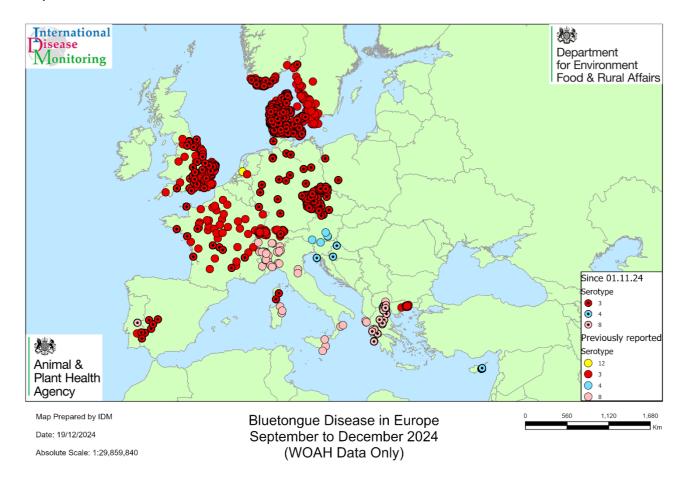
Disease report

Since our last report on <u>4 September 2024</u>, 170 additional cases of bluetongue virus serotype 3 (BTV-3) have been detected in Great Britain following the first case of BTV-3 (confirmed in Norfolk on 26 August 2024), bringing the total to 185 cases. As of 17 December, bluetongue has been reported in 30 counties across England and Wales. Vaccines are available in England, subject to obtaining a licence.

Since our last assessment, BTV-3 has spread to a number of previously unaffected countries. Norway, Czechia, Austria, Sweden, Portugal, Spain, Greece and Poland have all reported BTV-3 (NVI 2024a, SVSCR 2024), AGES 2024, SVA 2024, WOAH event 5877, Spanish ministry of agriculture 2024, WOAH event 5927, WOAH event 6098). There have been continued reports of BTV-3 in all parts of Denmark, most of France and in Switzerland across the Northern half of the country.

Moreover, in France, BTV-8-2023 has continued to spread north, and a majority of French departments are now affected (GDS France 2024). In Switzerland there have been additional reports of BTV-8 in the West near the border with France and in the South along the border with Italy (FSVO 2024). In Italy, there have been no reports of BTV-3 on the mainland or in Sicily but both of these areas are now affected with BTV-8 and BTV-4 (BENV 2024). In Spain, BTV-8 has spread from Catalonia to central Spain. Furthermore, there have been new detections of BTV-1 in the West and the first detections of BTV-3 near the border with Portugal (Spanish ministry of agriculture 2024). In addition to BTV-3 in Austria, BTV-4 was reported in the South for the first time since 2017 (AGES 2024). On the 11 October 2024, the Netherlands reported the first detections of BTV-12 on two farms located in Stichtse Vecht (sheep) and Woerden (cattle). Up until then, BTV-12 had never been detected in Northern Europe. An investigation is ongoing to determine the extent of the spread of BTV-12, and many clinically positive BTV cases are being retrospectively examined (NVWA 2024b). As of 12 December, there have been 12 reports of BTV-12 in the Netherlands.

Since the beginning of October there has been a considerable reduction in reported detections of BTV in Northern Europe. The largest drivers behind this are likely to be reduced circulation of the disease due to the drop in temperature as winter approaches and an associated reduction in vector activity. The risk of incursion of **BTV from all routes** has now been reduced to **low** (rare but does occur), from high in the late summer.



<u>Figure 1: Map showing all bluetongue virus reports on WOAH in Europe, since September, including all reports from November until 17 December, represented as a dot, BTV-1 not included.</u>

Situation assessment

Great Britain

On the 26 August 2024, the first case of BTV-3 for this season was detected in Norfolk, in a sheep showing clinical signs. An initial 20 km temporary control zone (TCZ) was put in place around the affected farm to restrict movements of susceptible animals and their germinal products, except under licence, and the animal was culled. Following this, 2 further TCZs were put in place in Norfolk and Suffolk following confirmation of BTV-3. TCZs were replaced by a Restriction Zone (RZ) on 30 August 2024 for the whole of Norfolk and Suffolk. As of 17 December, there have been 185 cases across 30 counties in England and Wales. A restricted zone and infected area have been implemented across the East of England (APHA Interactive Bluetongue Virus Map (arcgis.com)).

To date, 16 cases of BTV-3 have been detected outside the current restricted zone. The premises are in Bath and Northeast Somerset, Shropshire, Cheshire, Cumbria, Anglesey, Gwynedd, North Yorkshire and Cornwall. The animals moved to these premises from areas where disease is now known to be circulating, but the moves took place before bluetongue restrictions were put in place. The premises were initially placed under restriction whilst

further epidemiological investigations took place, and where appropriate the infected animals were culled to prevent the risk of local transmission. Further testing was undertaken to ensure there had been no local transmission. On premises where testing has been complete restrictions have been lifted (<u>Bluetongue: news, information and guidance for livestock keepers - GOV.UK</u>).

France

As of the 12 December, in France there have been 8,368 additional reports of BTV-3 since our last update, bringing the total to 8,710 reports. In the last four weeks (19 November to 17 December) there have been fewer than 300 reports published each week (peak of 1,217 reports between 5 to 12 of September). Reports have been mainly in the South of France, with reports near the Northern coast increasing in recent weeks. Though there is no information currently available regarding the clinical status of these animals, it is considered likely that many of these recent reports in the North are historical detections, given recent temperatures in the north of France. Most reports are located along the border with Belgium, however, there was notable spread towards the West and South of France in October. The entire of France is under restrictions for BTV. To control the spread, cattle, sheep and goats are prohibited from moving outside of the restriction zone, unless they are tested (with a negative result) and undergo voluntary vaccination (French Ministry of Agriculture and food sovereignty 2024).

There have also been detections in a number of departments in the Northeast, reaching as far as Haute-Marne. If spread continues to the Northern coast of France, and BTV-8-2023 is able to overwinter, there is potential for windborne incursion into Great Britain next year. BTV-8 (older strain) is considered endemic in France and is assumed to be present in all departments. No cases of BTV-8 have been detected in Great Britain in recent years. Corsica is endemic with BTV-4 and BTV-8 and has also reported BTV-3 (GDS France 2024).

Belgium

In Belgium there have been 1,687 additional reports of BTV-3 bringing the total to 3,672 across the country (<u>Sciensano 2024</u>). These reports are located in all regions of Belgium, with a majority of reports located near the border with the Netherlands and along the coast. Since the beginning of October there have only been 10 additional reports of BTV-3 published (all in the South). There have been no further updates from Belgium since the 30 October. To control the spread of BTV-3 in Belgium, authorities have approved the emergency use of inactivated BTV-3 vaccines (<u>FAMHP 2024</u>).

Netherlands

In the Netherlands, there have been 4,237 additional reports of BTV-3 since our last assessment, bringing the total to 9,256 outbreaks (2,116 confirmed clinically and 8,205 PCR positive) across the country in 2024 (NVWA 2024b). These reports are distributed across the entire country, but many are present in coastal areas (NVWA 2024b). Like in other countries, the number of additional reports has been decreasing in recent weeks (44 clinical reports between 2 October to 12 December).

On the 11 October 2024, the Netherlands published reports for the first time detailing that BTV-12 had been detected in 2 separate farms. BTV-12 has not been seen before in Northern Europe and the origin is unknown at this time (NVWA 2024c). There is no vaccine available for BTV-12 and the clinical picture is unclear. These cases were both located under 50 km from Amsterdam. Authorities have been retrospectively examining more than 1,400 samples submitted since 1 September to understand the extent of the spread, and as of 12 December a total of 12 detections of BTV-12 have been reported. 11 of these are located near the initial detections, but 1 case is located in the East of the country along the Germany border (NVWA 2024c).

Germany

In Germany, there have been 9,162 additional reports of BTV-3 since our last assessment, bringing the total to 15,372 outbreaks. All states of Germany are affected with BTV-3 (TSIS 2024). The number of weekly reports of BTV-3 peaked in September at 2,169 and has steadily decreased each week. Since the beginning of November, the number of additional cases reported was under 400 each week. There have not been any active cases reported in a number of weeks, therefore it is considered likely that these reports are from historical cases of BTV-3. The majority of reports are in the North near Denmark and in central Germany near the border with France.

Luxembourg

In Luxembourg, there have been 242 additional reports of BTV-3, bringing the total to 488. BTV-3 has been reported in all regions of Luxembourg. The number of new reports decreased rapidly in October and there have been no additional reports of BTV-3 Since the beginning of November (ALVA 2024).

Denmark

In Demark, there have been 977 additional reports bringing the total to 1,024 reports. The whole of Denmark is now affected with BTV-3. The majority of cases are located along the border with Germany in the South, but there is also a number of reports all located in the North close to Norway. Since the beginning of November there has been a rapid decline in weekly reports of BTV-3. Between 12 November to 12 December there have been less than 50 cases reported each week (compared to the peak of 135 in September) (DVFA 2024).

Switzerland

Switzerland has reported an additional 1,787 cases of BTV-3 since our last report, bringing the total to 1,790. These cases occurred on both sheep and cattle farms in the northern half of the country, with the greatest density of cases being present along the German border. There are also reports of BTV-3 along the French border in the West. Additionally, there have been 216 reports of BTV-8 in Switzerland since our last update, this brings the total to 217. The reports of BTV-8 are focused mainly in the West along the bordering regions of France, however, there is also a cluster of reports in Ticino (South along the border of Italy) (FSVO 2024). It is unclear if the current BTV-8 situation in Switzerland is caused by BTV-8-2023 or the endemic strain of BTV-8 believed to be present in all parts of France. In 2023 there were no reports of BTV-3 or BTV-8 in Switzerland.

Italy

There have been 1,804 additional reports of BTV-3 on the island of Sardinia, 3 reports of BTV-4 on Sardinia, 10 reports of BTV-4 on the island of Sicily and 117 reports of BTV-4 on the mainland. On the mainland, these reports are mainly concentrated near the border of Austria in the Northeast and in the Southwest near Sicily. There have also been an additional 2117 reports of BTV-8 across Sardinia, Sicily and mainland Italy. The majority of these reports are located across the Northwest of Italy near the borders of France and Switzerland. However, there are also a number of cases in all other regions of Italy including Sardinia and Sicily (BENV 2024). It was also recently confirmed that there has been co-infection of BTV-3 and BTV-4 as well as BTV-3 and BTV-8 in a number of animals across Italy (BENV 2024).

Norway

On 5 September Norway reported the first detection of BTV-3 on a sheep farm located in Adder in the South approximately 130 km from BTV-3 reports in northern Denmark. As of 12 December, there have been 73 total reports of BTV-3 in Norway. These are mostly located in the South in Agder, but there are also several reports in the East near the border of Sweden (NVI 2024b).

Czechia

On 9 September a WOAH report was published confirming 2 cases of BTV-3 in Czechia. Both cases were in Sheep located in Sokolov, near the border with Germany and approximately 50km from recent reports of BTV-3 in Germany. As of the 10 December there have been a total of 108 reports of BTV-3 in Czechia all located in the West (WAHIS Event 5861). A 150 km restriction zone has been established around these affected premises (SVSCR 2024).

Sweden

On 12 September 2024, BTV-3 was detected on a cattle farm in Bohuslän, approximately 125 km from reports of BTV-3 in northern Denmark. As of the 12 December there have been 377 total reports of BTV-3 in Sweden. All reports have been in the Southwest close to Norway and Denmark (SVA 2024).

Austria

On 13 September, Austria reported the first outbreak of BTV-3, in Vorarlberg in the West of Austria in a herd of cattle, and one outbreak of BTV-4 in Steiermark in the Southeast of Austria in a herd of cattle. The case in Vorarlberg is located close to the borders of Switzerland and Germany and is in close proximity to recent detections of BTV-3. However, the detection of BTV-4 was unexpected. Austria last reported BTV-4 in 2017 and there have been no recent reports of BTV-4 in Northern Europe. As of 17 December, there have been 66 reports of BTV-4 and 227 reports of BTV-3 in Austria, and 1 report of co-infection of BTV-3 and BTV-4 (AGES 2024).

Spain

Since our previous report BTV-8 has spread from the north towards the south of Spain. Additionally, there have been a number of detections of BTV-1 in previously unaffected regions

of Spain and the first detections of BTV-3 on the 30 September 2024. As of the 12 December, most of southern Spain is affected by BTV-1, BTV-3 and BTV-8 (Spanish Ministry of Agriculture 2024). BTV-4 has been present in a number of regions of Spain in recent years, but it has not spread to new areas. Spain has also enforced mandatory vaccination (serotypes 1,3,4,8) for all susceptible animals over 3 months old in areas affected with BTV (Spanish Ministry of Agriculture 2024).

Portugal

On 16 September a WOAH report was published confirming the first detection of BTV-3 in Portugal. The case was located on a sheep farm in São Manços, in South Portugal 40 km from Spain. At this time there were no reports of BTV-3 in Spain (WOAH event 5877). The closest country affected with BTV-3 at that time was France, when BTV-3 was primarily confined to the Northeast of France (GDS 2024). On 2 December, a WOAH report was published confirming the first detection for BTV-8 in Portugal for 2024 (WOAH event 6080). This comes after a number of cases of BTV-8 were reported in southern Spain along the border of Portugal.

Greece

There has been 1 additional report of BTV-8 in Greece since our last update. On 7 October the first WOAH report was published indicating that 10 outbreaks of BTV-3 were detected in Greece. These outbreaks were all detected in Topeiros and Abdera in the Northeast of Greece. As of 12 December, there have been a total of 33 reports of BTV-3 across Greece (WOAH event 5927). At this time, it is unclear how BTV-3 was able to reach Greece, since the closest BTV-3 affected countries are Austria and Italy (Sardinia). There have been no additional reports of BTV-16 or BTV-4 in Greece in recent months.

Poland

On 2 December, Poland reported the first detection of BTV-3 in cattle (<u>WOAH event 6098</u>). The detection comes after a number of BTV-3 reports along the border in Germany over recent months. The virus was detected as part of routine monitoring tests performed by veterinarians. On 12 December an additional case was reported bringing the total to 2 (<u>Chief Inspectorate Veterinary Poland</u>).

Implications for Great Britain

In the autumn months, BTV-3 continued to spread and be reported across Europe, affecting new countries and with emergence of BTV-12, BTV-4 and BTV-1 in new areas. However, the incidence in cases is decreasing as we head in to winter with many reports considered likely to be historical cases.

Given the high infection pressure observed in Europe this season, it may be likely that BTV strains will overwinter again and represent a risk of new incursions to Great Britain (via airborne infected midges) when conditions become favourable for circulation. Where this may happen and via which mechanisms is unknown, we will continue to monitor the situation.

Conclusions

The number of BTV-3 outbreaks detected in Great Britain since our previous assessment on 4 September 2024 has increased from just 15 cases localized to Suffolk and Norfolk to 185 cases with spread across 30 counties across England and Wales.

On the continent of Europe, there have been numerous reports of BTV-3 in Denmark, Germany, the Netherlands, Belgium, Luxembourg and Switzerland. BTV-3 has been detected for the first time in a number of other previously unaffected European countries.

The number of outbreaks of BTV continued to rise through the autumn, as was expected in both Northern Europe and Great Britain, but more recently, temperatures and vector activity are decreasing. This means as we move into winter and temperatures drop further, we expect to see a decrease in new cases. Although, as of 2 December 2024 parous female midges (that is, those which are likely to have had a blood meal and are therefore potentially carrying the virus) were still being detected (at low levels) in vector surveillance traps in a number of counties in England, indicating that the vector season has not yet come to an end (The Pirbright Institute, personal communication). BTV requires a minimum average temperature of 12°C to 15°C for virus replication, therefore temperatures need to be higher than this for infected Culicoides to become infectious and transmit the virus (Carpenter et al., 2011). Despite this, as vectors themselves can remain active at lower temperatures, any previously infected vectors which had become infectious prior to the drop in temperature could continue to infect livestock throughout their life span (Brand et al., 2017). Typically, Culicoides live 2 to 3 weeks, but some have been documented to survive for longer (3.5 months) in favourable conditions (Mellor et al. 2000). Additionally, the incubation period in sheep is usually 4 to 8 days but, in some cases it can be as many as 20 days (Irish department of Agriculture, Food and the Marine 2023).

Cases of relatively recent infection continued to be confirmed in the last week. Even if virus transmission is expected to have reduced in recent weeks, further cases are likely to be detected due to variability in the expression of clinical signs, especially in the presence of active surveillance and pre-movement testing. It is likely that additional cases will still be detected in December and even into January as was observed in late 2023 and early 2024.

Since the beginning of October there has been a noticeable decline in circulation of BTV in Northern Europe. The largest drivers behind this are likely to be the drop in temperature as winter approaches and reduced vector activity. The risk of incursion of **BTV from all routes** has now dropped to **low** (rare but does occur) **from high** in the late summer.

There is <u>quidance available for livestock owners within TCZs and RZs</u>. 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. 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. Currently, susceptible livestock cannot be moved to Great Britain without prior vaccination, for countries affected with BTV. As there is no fully approved vaccine for BTV-3 or BTV-12 countries affected with them are unable to comply with the health certificate requirements. Assurances should be sought from traders to ensure BTV susceptible animals are fully protected with the

appropriate serotype vaccination, where possible, prior to travel (BTV-1, BTV-3, BTV-4, BTV-8, BTV-12 and BTV-16 are circulating in Eur7ope). If you keep livestock, you must continue to keep a close watch for, and report, any suspicion of bluetongue disease in your animals.

Sheep are more likely to show obvious clinical signs of bluetongue than cattle if they become infected. Signs of bluetongue in sheep include ulcers or sores in the mouth and nose, discharge from the eyes or nose, drooling from mouth, swelling of the lips, tongue, head and neck and the coronary band, red skin as a result of blood collecting beneath the surface, fever, lameness, breathing problems, abortion, foetal deformities and stillbirths, death.

Lambs can become infected with bluetongue before birth if the dam is infected while pregnant. Signs of infection include born small, weak, deformed, or blind, death of lambs within a few days of birth, stillbirths.

Cattle clinical signs include lethargy, crusty erosions around the nostrils and muzzle, redness of the mouth, eyes or nose, reddening of the skin above the hoof, nasal discharge, reddening and erosions on the teats, fever, milk drop, not eating, abortion, foetal deformities, and stillbirths. Adult cattle may serve as a source of virus for several weeks while displaying little or no clinical signs of disease and are often the preferred host for insect vectors.

Calves can become infected with bluetongue before birth if the mother is infected while pregnant. Signs of infection include born small, weak, deformed, or blind, death of calves within a few days of birth, stillbirths.

For more information and photos of clinical signs of bluetongue virus visit <u>Bluetongue: how to spot and report it</u>. If livestock keepers or vets, consider bluetongue as a possibility they must report the suspicion to APHA immediately.

We will continue to monitor the current situation.

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References

Austrian Agency for Health and Food Safety (AGES) (2024), Bluetongue Disease. Available at: https://www.ages.at/en/human/disease/pathogens-from-a-to-z/bluetongue (Accessed 17 December 2024).

Belgian Federal Agency for Medicines and Health Products (FAMHP), (2024), Bluetongue virus vaccination. Available at: Bluetongue virus | FAMHP (Accessed on 17 December 2024)

National Veterinary Epidemiological Bulletin Italy (BENV) (2024) Available at: <u>BENV 2024</u>. (Accessed 17 December 2024).

Boehringer Ingelheim (2024), Bultavo 3 BTV-3 vaccine leaflet. Available at: https://www.pei.de/SharedDocs/Downloads/EN/medicine-safety/vet-vigilance/bultavo-3-package-leaflet.pdf? blob=publicationFile&v=4 (Accessed on 8 August 2024)

CZ vaccines (2024), BLUEVAC-3 BTV-3 vaccine leaflet. Available at: https://www.pei.de/SharedDocs/Downloads/EN/medicine-safety/vet-vigilance/bluevac-3-package-leaflet.pdf? blob=publicationFile&v=5 (Accessed on 8 August 2024)

Danish Veterinary and food administration (2024), Bluetongue virus. Available at: (Danish Veterinary and Food Administration 2024). (Accessed 17 December 2024).

Federal food safety and veterinary office Switzerland (FSVO) (2024). Press Release Bluetongue virus. Available at: <u>FSVO 2024</u>. (Accessed 17 December 2024).

French Ministry of Agriculture and food sovereignty (2024). Bluetongue situation. Available at: https://agriculture.gouv.fr/la-situation-de-la-fievre-catarrhale-ovine-fco-en-france (Accessed 17 December 2024).

Health Defense Group France (GDS) (2024) Map of Bluetongue virus Available at: GDS France 2024. (Accessed 17 December 2024).

German Federal Institute for Vaccines and Biomedicines, Paul-Ehrlich-Institut (PEI), (2024), Bluetongue virus vaccination. Available at: News - Protection Against Bluetongue — Paul-Ehrlich-Institut Designates Three Vaccines and BMEL Issues Emergency Decree for their Use - Paul-Ehrlich-Institut (pei.de) (Accessed on 8 August 2024)

Luxembourg Veterinary and Food Administration (ALVA) (2024) Bluetongue situation. Available at: https://agriculture.public.lu/de/aktuelles/2024/oktober/blauzungenkrankheit-16-10.html (Accessed 17 December 2024).

Netherlands Directorate of Animal Agricultural chains and animal welfare (2024), Available at: https://open.overheid.nl/documenten/c76df124-5b7e-4921-b789-29e85d202434/file (Accessed on 8 August 2024)

Netherlands Ministry of Agriculture, Nature and Food Quality (NVWA) (2024a), Bluetongue virus vaccination. Available at: <u>3rd vaccine against bluetongue virus approved for use | Newsitem | Rijksoverheid.nl</u> (Accessed on 8 August 2024)

Netherlands Ministry of Agriculture, Nature and Food Quality (NVWA), (2024b), Bluetongue

Virus. Available at: Bluetongue | NVWA (Accessed on 17 December 2024)

Netherlands Ministry of Agriculture, Nature and Food Quality (NVWA), (2024c), Bluetongue Virus. Available at: <u>Bluetongue virus serotype 12 detected on 2 farms | News item | Rijksoverheid.nl</u> (Accessed on 17 December 2024)

Norwegian Veterinary Institute (NVI) (2024a), Vaccination against bluetongue in Norway - questions and answers. Available at: <u>Vaccination against bluetongue in Norway - questions and answers - Norwegian Veterinary Institute (vetinst.no)</u> (Accessed 17 October 2024).

Norwegian Veterinary Institute (NVI) (2024b), Status of bluetongue in Norway. Available at: <u>Status of bluetongue in Norway - Norwegian Veterinary Institute (vetinst.no)</u> (Accessed 17 December 2024).

PAFF Animal Health and Welfare committee, Luxemburg, (2024). Available at: <u>GRIPPE</u> <u>AVIAIREPLAN D'INTERVENTION (europa.eu)</u> (Accessed 2 September 2024).

PAFF Animal Health and Welfare committee, Denmark, (2024). Available at: <u>04735acf-4280-404b-9ac8-e7edcf2a21fe_en (europa.eu)</u> (Accessed 2 September 2024).

Sciensano, (2024), Bluetongue virus situation. Available at: <u>Epidemiological situation</u> <u>Bluetongue | sciensano.be</u> (Accessed on 17 December 2024).

Spanish Ministry of Agriculture, (2024), Bluetongue virus situation December. Available at: https://www.mapa.gob.es/es/ganaderia/temas/sanidad-animal-higiene-ganadera/notaactualizacions1s3ys8la0512_tcm30-697640.pdf (Accessed 17 December 2024).

State Veterinary Administration Czech Republic (SVCR) (2024), Bluetongue in the Czech Republic. Available at: <u>Bluetongue in the Czech Republic – State Veterinary Administration (svscr.cz)</u> (Accessed 17 December 2024).

State Veterinary Administration Sweden (SVA) (2024), Bluetongue. Available at: https://www.sva.se/amnesomraden/djursjukdomar-a-o/blatunga/ (Accessed 17 December 2024).

Syva, (2024), Syvazul BTV-3 vaccine information. Available at: <u>Syvazul BTV-VRA-0009</u> - product information (afmps.be) (Accessed on 8 August 2024).

Tier Seuchen Information System (TSIS), (2024), Bluetongue disease. Available at: <u>TSIS - Animal Disease Information System (fli.de)</u> (Accessed on 17 December 2024)

World Organisation for Animal Health (WOAH) (2024) Event 5877 BTV in Portugal. Available at: https://wahis.woah.org/#/in-event/5877/dashboard (Accessed 17 December 2024).

World Organisation for Animal Health (WOAH) (2024) Event 5927 BTV in Greece. Available at: https://wahis.woah.org/#/in-event/5927/dashboard (Accessed 17 December 2024).



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