



Department
for Environment,
Food & Rural Affairs

Entry risk assessment on the likelihood of incursion of foot and mouth disease virus from the EU to Great Britain

3 April 2025

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Executive summary

This summary outlines a rapid risk assessment which has been requested to consider the risk of FMD virus (FMDV) entering Great Britain due to the outbreaks of foot and mouth disease (FMD) in Hungary and Slovakia.

It considers the risk that the virus will enter Great Britain over the next 3 months through the potential risk pathways. The risk is assessed as of 3 April 2025 when there have been 5 confirmed cases in Slovakia and 4 confirmed cases in Hungary of the same FMD viral strain, indicating local spread of the virus. The assessment considers that the risk associated with the single outbreak in Germany in January 2025 is no longer significant. However, it may be indicative of a general biosecurity issue in the eastern and central European Union (EU).

Recent estimates suggest that the single case [of FMD in buffalo in Germany in 2025 cost the German economy €1 billion](#)¹. This includes both direct disease control costs and indirect costs through trade restrictions. This figure is expected to have been significantly higher if the disease had spread beyond the index case or if disease control took longer to implement or was less effective. The large-scale [outbreak in Great Britain in 2001 is estimated to have cost £15 billion in current prices](#)². This figure refers to direct disease control costs alone and does not include the significant costs due to loss of trade.

The risk that FMDV will enter Great Britain over the next 3 months was assessed as **medium**. This means that the virus is expected to enter Great Britain ‘regularly’ over the next 3 months. The risk of entry of FMDV was considered highest through commercial, personal or illegal trade in products of animal origin (POAO). Each of these routes had a **medium** risk (meaning that the virus is expected to enter Great Britain ‘regularly’ over the next 3 months through each of the commercial, personal and illegal trade routes).

As FMD is highly transmissible (with an incubation period of between 2 to 14 days), a major concern is that the virus will spread to a free-area and subsequently spread to Great Britain before restrictions are implemented (so called ‘silent spread’ of the disease). Further cases, particularly additional member states being infected, or a change in the epidemiological situation such as evidence of disease in wild animals, would cause the risk to increase to ‘high’.

¹ <https://www.br.de/nachrichten/deutschland-welt/maul-und-klauenseuche-eine-milliarde-euro-verlust-geschaetzt,Ua3Q0F8>)

² [The 2001 Outbreak of Foot and Mouth Disease - National Audit Office \(NAO\) report](#), House of Commons - Public Accounts - Fifth Report (parliament.uk), Inflation calculator | Bank of England

It is likely that new cases will be detected in areas surrounding the current known cases in Europe despite restrictions in place as required by current EU legislation and any further country-level restrictions in Hungary and Slovakia. There is free movement of people, goods and vehicles across EU member states in unrestricted areas, and the possibility for wild animals (in particular, wild boar and deer) in the area to be infected.

Depending on surveillance and veterinary capacity, early detection is difficult in wild animals and infection may be particularly challenging to control. The use of suppressive vaccination in affected regions is beneficial to disease control but may impact surveillance and, in a worst-case scenario, could result in delays to detecting disease spread.

Given the possibility of human-mediated spread and wild animals being infected in the region and the frequency of new cases being reported to date, we cannot rule out the possibility of sudden wider geographical movements of the disease into new areas over the coming days and weeks.

Great Britain's top 5 EU trading partners for imports of products of animal origin (POAO) from susceptible species into GB are the Republic of Ireland, Netherlands, Germany, Poland and Denmark. Given the proximity to known outbreaks, a major concern is that the disease will spread undetected into Poland and subsequently spread to Great Britain through commercial, personal or illegal movement of POAO before the presence of disease is detected in Poland. Given the proximity of Czechia and Austria to known cases, disease spread into these 2 member states is also a possibility. However, it should be noted that restrictions are currently in place for Austria due to the proximity of the outbreaks to the Austrian border.

A second major concern is the continued importation of high volumes of illegal POAO. Multiple safeguard measures have been implemented over the past 3 years including limiting the weight of meat or dairy products which can be transported in luggage or vehicles from the EU to 2kg of commercially produced, packaged and marked goods and banning the transport of these products from certain member states where animal diseases are present.

Despite this, high volumes of illegal imports are still routinely seized (mean weight 158.30kg per seizure) at ports of entry such as Dover. The seized meat does not meet Great Britain's import requirements. It frequently appears to be a product of home slaughter and, as such, is unlikely to have had veterinary oversight during production or been subject to official controls for example, ante- and postmortem inspection. In some cases, the meat seized has health marks which do not allow placing on the market beyond the EU. This meat also frequently arrives in a

condition unsuitable for meat for human consumption, for example lack of cold chain or the packaging leaking.

This is a major concern for spread of FMD (and other pathogens) into Great Britain. Defra is working closely with the Home Office and Border Force, Port Health Authorities, the Food Standards Agency and Local Authorities to tackle the issue of POAO smuggling. The current restrictions are complex, frequently updated, and therefore difficult to communicate, understand, follow and enforce. Introducing a straightforward ban on all meat and dairy products from the EU would provide a clear message and improve compliance with restrictions.

There is a **high** level of uncertainty with the results of this risk assessment, meaning 'further research is very likely to have an important impact on our confidence in the risk estimate'. There are major gaps in our epidemiological knowledge at the current time including:

- very limited information and analysis on how the virus was introduced into the EU
- the extent of the spread of the virus within the EU
- whether the virus is currently in wild animals in the area
- whether EU-wide movement restrictions will be put in place
- whether measures at Great Britain's borders will be sufficient to detect and prevent POAO being brought into Great Britain as illegal imports

More information would greatly increase the confidence in the risk levels.

This risk assessment considers the risk of the virus entering Great Britain over the next 3 months from either affected or currently unaffected EU member states, assuming the potential for silent spread within the region. It does not assess the risk from non-EU countries in the European region or from the rest of the world. It does not assess the risk that any susceptible species within Great Britain will be exposed to the virus and become infected, leading to a disease outbreak. Nor does it consider the consequences of the disease within Great Britain.

This risk assessment should be updated regularly to monitor the changing risk to Great Britain. All assessments relate to the situation as of 3 April 2025 when there have been 5 confirmed cases in Slovakia and 4 cases in Hungary.

Background

This year, 3 European countries have reported FMD (Slovakia, Hungary and Germany). An [outbreak in Germany in January 2025](#) was the first case recorded in

the EU since a case in Bulgaria in 2011. Following sequencing, this has been confirmed as serotype O but caused by a different viral lineage to the subsequent outbreaks in Slovakia and Hungary. Slovakia and Hungary have been confirmed as identical sequences of O/ME-SA/PanAsia2/ANT10 (also known as PUN-16) lineage, although further sequencing of the whole genome should be undertaken to look for finer detail of disease spread.

On 7 March 2025, Hungary reported FMD to WOA. The outbreak occurred on a large dairy cattle herd in Kisbajcs, Győr-Moson-Sopron, approximately 2km from the Slovakian-Hungarian border. The 3km Protection Zone (PZ) and 10km Surveillance Zone (SZ) extended into Slovakia. On 21 March 2025, Slovakia reported three outbreaks of FMD to WOA, in Dunajská Streda, Trnavský, close to the Slovakian-Hungarian border. On 25 March, Slovakia reported a further outbreak in the same district Dunajská Streda, Trnavský, within a 10km restriction zone of a previously reported Slovakia outbreak (21 March 2025). The spread of outbreaks in Slovakia closely follows the path of the Danube River, upstream.

On 26 March, Hungary reported a second FMD case on a cattle farm in Levél, Győr-Moson-Sopron, 40km northwest from the initial report and this time close to the Austrian-Hungarian border. The 10km SZ extends into the Austrian territory. A further case was reported by Slovakia on a cattle farm on the 30 March. This outbreak is in a new district of Malacky, Bratislavský (Figure 2). On 2 April 2025, two additional cases were reported in Hungary in Darnózséli and Dunakiliti of the Győr-Moson-Sopron region. The outbreak in Dunakiliti is approximately 9.2km from the outbreak in Levél. In total, as of the 3 April 2025, there have been four confirmed cases reported in Hungary and five in Slovakia.

Hungary and Slovakia are administering a suppressive vaccination policy to reduce shedding of the virus prior to the culling of animals as part of the stamping out process. In the EU, prophylactic vaccination against FMD has been prohibited since 1990.

Great Britain experienced FMD outbreaks in 2001 and 2007. The exact source of FMD virus entry in the 2001 outbreak was not established, although it was considered likely to have been through the importation of contaminated meat or contaminated catering waste from ships and airlines. The serotype in each outbreak was confirmed as serotype O. The outbreak in Great Britain in 2001 caused substantial losses to agricultural industry, with an estimated direct financial loss of £3.1 billion, while over 4 million animals were slaughtered as part of FMD control measures with a further 2 million slaughtered due to welfare concerns from movement bans. This figure is estimated at £15 billion in today's prices. This figure reflects the direct disease control costs only and does not incorporate any additional costs due to trade losses.

Hazard identification

The hazard has been identified as foot and mouth disease serotype O (O/ME-SA/PanAsia2/ANT10).

FMD is a WOAHA-listed disease and must be reported to the organisation due to its significant negative impact on animal health and welfare, animal production, trade, and the wider society.

Cattle, pigs, sheep and all cloven-hooved species including wild artiodactyls (deer, wild boar) can transmit the virus under natural conditions through direct and indirect contacts.

The typical clinical presentation of FMD is vesicular lesions on buccal and nasal mucosa, the interdigital space and coronary bands of the feet and in females, the mammary glands. Less severe clinical presentations including sub-clinical infection has been reported in sheep and goats.

Transmission may occur via direct and indirect mechanisms such as direct contact with infected animals, ingestion or contact with infected animal products, fomites, artificial insemination with contaminated semen and airborne spread. FMD virus has been found in all secretions from infected animals, their fresh or frozen meat, unprocessed dairy products, other products of animal origin, and germinal products (semen and in vitro produced embryos).

The virus is highly infectious at very low doses, although variation is seen depending on host species, the route of exposure and virus strain. The variability of virulence has been associated with viral strain rather than serotype across different host species, impacting the severity of clinical FMD.

In line with the WOAHA terrestrial code, the incubation period for FMD is 14 days although EFSA reports that this may be as little as 2 days in cattle and small ruminants.

Although vaccines are commercially available for FMD, their use in the EU and Great Britain is limited to emergency use. Slovakia and Hungary are vaccinating for suppression in the 3km zones around the outbreaks, as a vaccinate to cull strategy.

The FAO/WOAH World Reference Laboratory for FMD is based at The Pirbright Institute, UK and receives samples from many endemic countries which enable phylogeographic analysis. Laboratory diagnosis is used to confirm the presence of FMD by virus isolation, real-time RT-PCR or detection of viral antigen or antibodies from epithelium samples from vesicles or blood and/or oesophageal-pharyngeal fluid. EU countries submit samples from confirmed outbreaks to the EU Reference Laboratory for FMD provided by a consortium between ANSES (France) and Sciensano (Belgium).

Risk question

The specific risk question addressed in this risk assessment is:

What is the risk that FMD virus will spread into Great Britain from affected regions within the European Union over the next 3 months?

This risk question includes both the:

- direct spread from affected regions to Great Britain
- indirect, silent spread into unaffected regions of the EU and subsequently to Great Britain

All assessments relate to the situation as of 3 April 2025 when there have been 5 confirmed cases in Slovakia and 4 cases in Hungary. The risk assessment should be updated if the epidemiological situation changes.

The terminology to describe risk and uncertainty levels is shown in Appendix 1.

Key assumptions

- All legal requirements, including trade restrictions and health certificate attestations, are correctly adhered to for commercial trade. This includes the current limits on personal imports.
- The level of awareness of FMD in the rest of the EU is heightened.

Entry assessment

The entry assessment considered the following pathways:

1. Commercial trade in live ruminants and porcine animals
2. Commercial trade in ruminant and porcine germplasm
3. Commercial trade in ruminant and porcine products of animal origin (POAO)
4. Commercial trade in animal by-products from susceptible species
5. Commercial trade in goods packaged with straw
6. Personal imports of ruminant and porcine POAO
7. Illegal imports of live ruminants and pigs
8. Illegal imports of ruminant and porcine POAO
9. Passengers traveling by air, sea or rail transporting fomites
10. Hunters, Army Personnel and service animals
11. Vehicles (commercial, freight and passenger)

- 12. Animal feed, bedding, and crops
- 13. Wildlife
- 14. Aerosol / windborne

A summary of results of each pathway in the entry assessment is given at the end of this section in Table 8. It should be noted that this risk assessment only considers an entry assessment. Some of these routes of entry would have a higher risk of exposure to susceptible animals in Great Britain (particularly live animals and POAO) and therefore would be more likely to cause an outbreak in Great Britain. However, an exposure assessment is outside the scope of the current assessment.

1. Commercial trade in live ruminants and porcine animals

Live ruminant and porcine animals are approved for trade between member states in accordance with EU Regulation 2016/429, requiring animals to come from a holding and area which are not under restriction for any notifiable disease, including FMD, and requiring veterinary certification unless a derogation is in place. Similar legislation applies to imports to Great Britain from EU member states under Statutory Instrument 2020/1462.

The UK has placed safeguard measures on Austria, Hungary, Slovakia and the containment zone in Germany for the following commodities:

- live ruminant (including non-domestic) ruminants and porcine animals, (including wild game and their germplasm)
- fresh meat from ruminant and porcine animals (including chilled and frozen, meat product from ruminant and porcine animals that have not been subject to specific treatment D1, D, C or B (including wild game)
- milk, colostrum, and their products, unless subjected to treatment as defined in Article 4 of Regulation 2010/605
- certain animal by-products
- hay and straw

The first case of FMD was reported in Germany on 6 January 2025, though the isolated strain was a different lineage to the subsequent outbreak in Hungary and Slovakia. Hungary was the second EU country to report FMD in 2025 with cases reported on 7 March, 26 March and two cases on the 2 April 2025 (Figure 1). Slovakia reported their first three cases on 21 March and subsequent cases on 25 and 30 March 2025 (Figure 2).

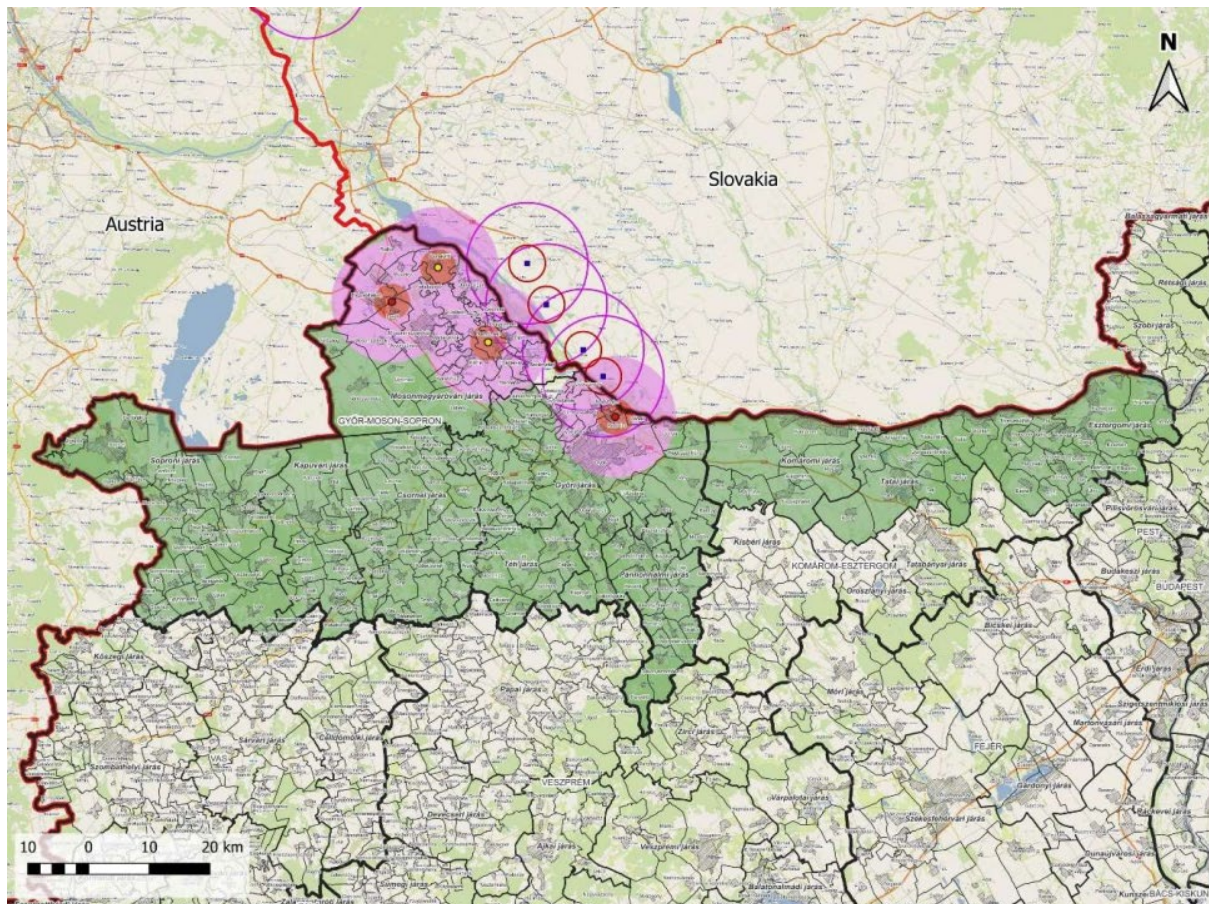


Figure 1: Map showing the confirmed FMD outbreaks in Hungary (dots represent the outbreak farm location with the outer rings representing the 5km protection zone and 10km surveillance zone) as of 3 April 2025.

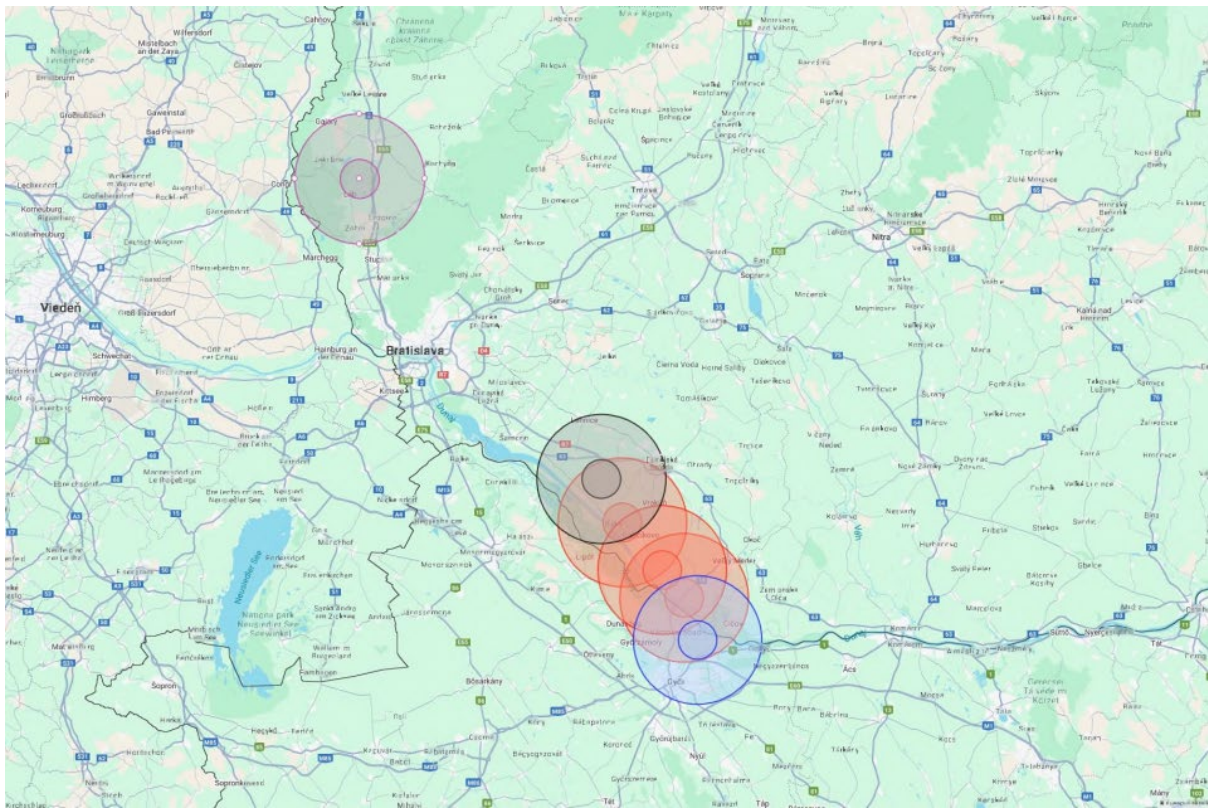


Figure 2: Map showing the confirmed FMD outbreaks in Slovakia (dots represent the outbreak farm location with the outer rings representing the 5km protection zone and 10km surveillance zone) as of 3 April 2025.

In Hungary, the direct movements of susceptible animals for immediate slaughter are allowed within Győr-Moson-Sopron county, except the Mosonmagyaróvár and Győr districts, where disease has been reported. Inbound movement of susceptible animals to the restricted zones is prohibited. International movements of live susceptible animals (including to other member states) are also prohibited. Pigs, sheep and goats can be transported for immediate slaughter outside the affected counties but must remain within the territory of the member state.

Extra emergency measures implemented by the EU on 31 March state that the above movement can only be authorised for animals of susceptible species of the same health status kept in the same establishment and the means of transport must be sealed by the competent authority (CA) at the establishment of origin and unsealed by CA. No events/tourist attractions containing susceptible species (including zoos) can be held in Győr-Moson-Sopron County. Suppressive vaccination (as a “vaccinate to cull” policy) has been implemented at holding level in the affected region. Austria, Poland and Slovakia have all prohibited the introduction of live animals/POAO from Hungary.

In Slovakia, suppressive vaccination has been implemented in Medvedov and Narad as these areas have dense populations of susceptible animals and all susceptible animals are due to be culled in both the PZ and SZ. Further restrictions include the closure of all events or tourist attractions containing susceptible species. The entry of unauthorised persons onto farms containing susceptible species is also banned, with cleaning and disinfection of vehicles and people required after entering a farm. Although, a national movement standstill was initially implemented on 21 March 2025, this was lifted on 31 March 2025. Subsequently, live susceptible animals from the free part of Slovakia can be transported to approved slaughterhouses within the EU although Poland, Czechia and Austria continue to prohibit the introduction of live animals and POAO from Slovakia.

The SZ around the second infected premises (IP) in Hungary extends into the Austrian territory. The region has a relatively low number of susceptible animals (11 premises with 43 animals). However, a further restriction zone has been established in Austria around the SZ (encompassing 1,103 premises and 82,064 susceptible animals) (Figure 3), in which a risk-based sampling plan and clinical inspection will be undertaken now and repeated in four weeks.

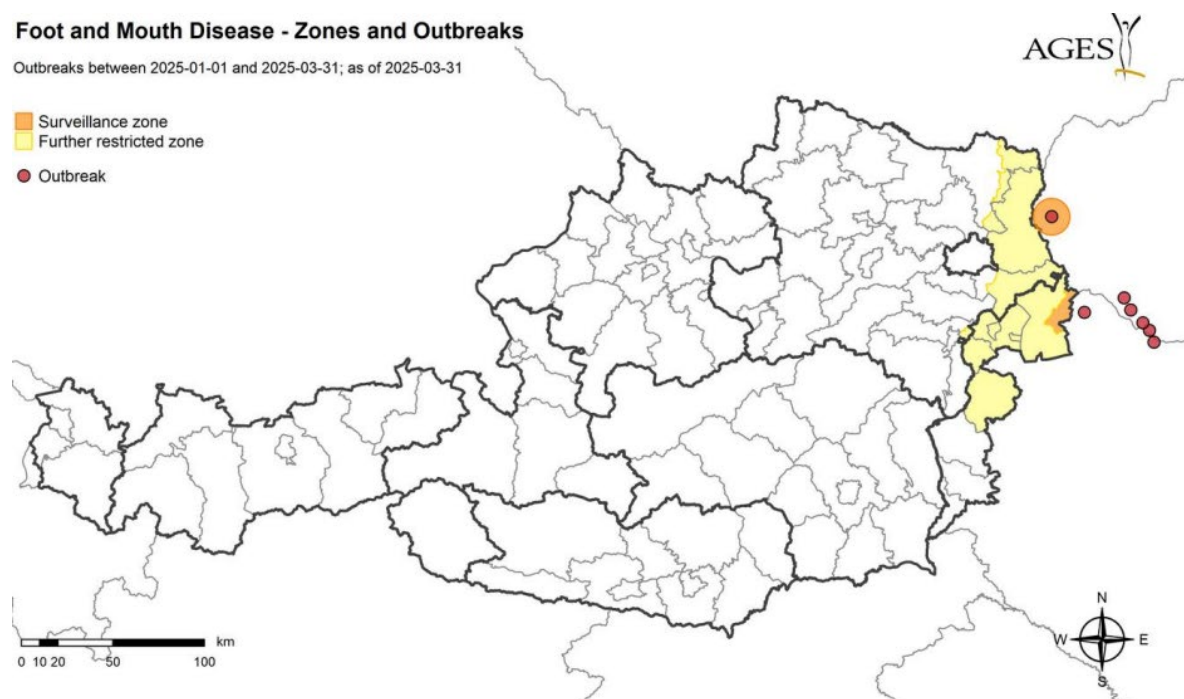


Figure 3: Map showing the current restricted zones in Austria due to FMD outbreaks in Hungary and Slovakia. Data correct as of 31 March 2025

The annual estimated number of live susceptible animals being transported between EU member states is approximately 42 million. Of which, cattle represent 4.3 million, pigs 34.9 million, and sheep and goats approximately 3.5 million animals. The most

common route of transport for cattle is from Ireland to Spain, Italy and the Netherlands. Transport of porcine animals most often occurs from Denmark and Germany to Poland and Romania. Sheep and goats are mostly exported to Italy and Greece from other EU countries for slaughter. It is estimated around 40 million pigs, cattle and sheep and goat are transported over long-distances (8 hours or more) within the EU annually for slaughter, fattening and breeding. The number of slaughterhouses in the EU has decreased leading to longer transport distances and larger industrial facilities. France, Germany and Poland are the most significant livestock producers and processors in the EU. The EU export around 3.4 million live animals annually to non-EU countries, with 730,00 cattle, 1,374,00 sheep and 1,382,000 pigs annually sent to Turkey, Israel, Lebanon and other Middle East and North African countries (Figure 4).

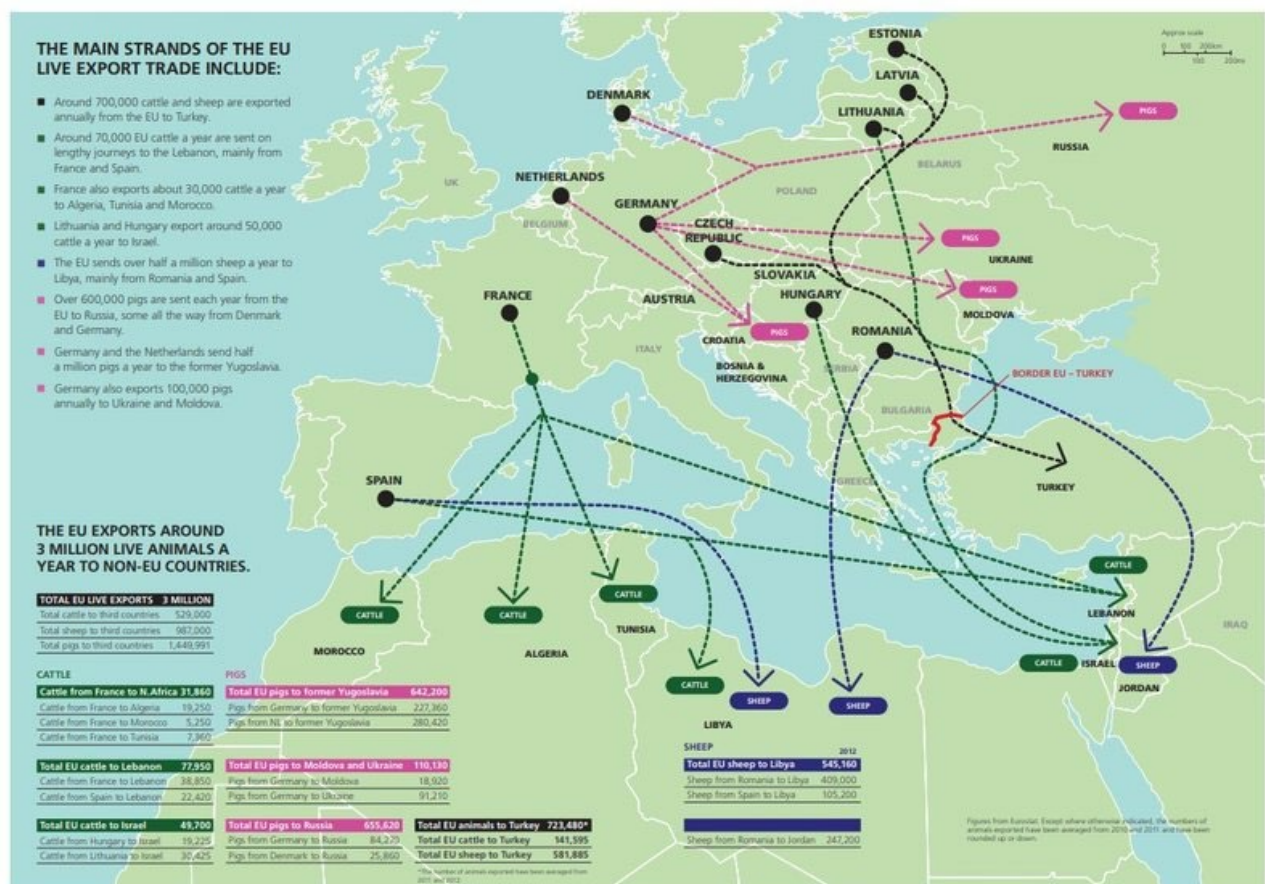


Figure 4: Map showing routes and figures for European Union live animal export trade

On 7 March 2025, the UK restricted the import of live animals and POAO (unless treated to mitigate FMD) from Hungary and Slovakia. This was extended to also include Austria on 27 March. Much of the European Union is currently prohibited from sending live ruminants and swine to Great Britain due to concurrent bluetongue,

epizootic haemorrhagic fever virus (EHDV) and African Swine Fever outbreaks. Trade volumes in live ruminants and swine to Great Britain from the EU is shown in Table 1.

Table 1: Number of live animals being exported from the EU to the UK from 1 January 2024 to 3 April 2025 (Source: APHA CIT)

Country of origin	Live bovine animals	Live porcine animals	Live ovine animals	Grand total
Republic of Ireland	7,907	7,472	368	15,747
Northern Ireland	3,143	3,695	625	7,463
Denmark	1,491	1,278	0	2,769
Poland	731	0	0	731
Netherlands	0	119	0	119
Sweden	5	55	9	69
Czechia	65	0	0	65
Germany	46	0	0	46
Austria	38	0	0	38
Norway	0	33	0	33
Lithuania	31	0	0	31
France	11	0	0	11
Belgium	0	2	0	2
Grand total	13,468	12,654	1,002	27,124

There has been no trade of live ruminant or porcine animals into Great Britain from Hungary, Slovakia or Austria since the 1 of January 2025 (Source: APHA CIT). There have been no imports of caprine animals from the EU to GB since 1 January 2024. No other live exotic ruminant and porcine animals exported to Great Britain were destined for approved premises, such as zoos or exhibitions. Such moves are rare and involve non-domestic (“exotic”) species moved between approved premises for captive breeding programmes. Pet pigs are legally considered livestock and are subject to UKSI/2020/1462 certification. Wild boar or feral pigs (pigs which are not raised in a holding or under control of an operator) may not be dispatched for trade.

While there has been limited trade of live animals directly from currently known FMD affected regions, there is uncertainty surrounding the true extent of where the disease is present. EU disease control measures, such as the application of 3km/10km control zones around FMD infected premises as specified in delegated acts made under Regulation (EU) 2016/429, if adhered to, may adequately prevent the spread of disease in the immediate region. An EFSA opinion of these control measures confirmed that the 3km and 10km zone measures would limit 99% of expected spread (assuming no movement of infected animals or other fomites had occurred from the zones during the high-risk period). However, due to unrestricted movement of people, personal goods and wild animals, it is possible that disease is present and undetected in a much wider region of the EU. However, many EU member states are currently prohibited from exporting live ruminants to Great Britain due to bluetongue virus, epizootic haemorrhagic disease virus (EHDV) or FMDV outbreaks. The only member states without restrictions due to presence of BTV on live ruminants moving to Great Britain due to ongoing disease outbreaks are Estonia, Finland, Ireland, Slovakia, Lithuania and Latvia. The Baltic States are also restricted for live pig movements due to ASF outbreaks. However, in terms of BTV restrictions, the EU considers Slovenia, Hungary, Slovakia, parts of Poland and Italy to be disease free and ruminants may still move to other member states. Therefore, trade volumes in live ruminants to Great Britain are not as high as they would otherwise be, but the trade in pigs continues from Netherlands and Denmark (our two major trade partners). For these reasons, the risk of importing FMD into Great Britain through live animals is considered to be **low (medium uncertainty)**.

2. Commercial trade in ruminant and porcine germplasm

FMD can be transmitted through germplasm, specifically through semen from infected bulls. This route of transmission is significant because the virus can remain potent in semen even when frozen at low temperatures, such as -50°C, for up to 320 days. However, for long-term preservation, semen is typically frozen and stored in liquid nitrogen at -196°C, which is likely to also preserve virus.

EFSA undertook an assessment in 2022 of the different production processes for germinal products relating to FMD risk and concluded that there is a lack of evidence to conclude with a high degree of certainty if germinal products collected or derived from an infected animal of listed species (i.e. kept animals, and, where relevant, game animals) in the restricted zone can contain the disease agent, particularly regarding oocytes, in vivo derived and in vitro produced embryos.

WOAH does not explicitly state a requirement for testing semen immediately after FMD is detected in a country. However, for import from FMD-infected countries or

zones: Semen must come from donor males with no clinical signs of FMD, kept in secure conditions, and possibly vaccinated or tested for antibodies. Great Britain's veterinary health certificates require 12-month territory freedom immediately prior to collection of the semen for export and until its date of dispatch to Great Britain with no vaccination taking place in the same period. However, there is uncertainty on the true extent of disease presence in the EU.

Table 2: Weight and value of bovine semen (CN code 051110) imported into the United Kingdom from EU member states since 2024 by country of consignment dispatch. (Source: HMRC)

Country of origin	Mass (kg) 2024	Value (£) 2024	Mass (kg) January 2025	Value (£) January 2025	Total Mass (Kg)	Total Value (£)
Republic of Ireland	17,543	1,233,549	0	0	17,543	1,233,549
Netherlands	763	1,171,726	37	35,528	800	1,207,254
France	219	815,998	1	19,833	220	835,831
Belgium	167	72,635	0	0	167	72,635
Denmark	139	129,798	4	11,240	143	141,038
Germany	89	410,992	0	0	89	410,992
Czechia	24	4,716	0	0	24	4,716
Italy	4	194,633	2	78,875	6	273,508
Spain	2	107,648	0	0	2	107,648
Austria	2	24,952	0	0	2	24,952
Total	18,952	416,6647	44	145,476	18,996	4,312,123

There has been no trade in ruminant or porcine germplasm into Great Britain from Hungary, Slovakia or Austria since 1 January 2025 (Source: PLT). The European Commission uses the TRACES platform to manage and monitor the movement of ruminant and porcine germinal products, including semen, within the EU. This platform helps track approved establishments and ensures compliance with EU regulations. However, monthly collection volumes are not publicly available. There is also uncertainty on whether consignments of germplasm from FMD affected establishments are traced back and destroyed.

Due to the uncertainties around the true extent of disease present in the EU and the median detection time. This pathway is considered a **low** likelihood (**medium** uncertainty), given the current outbreaks are not believed to be in breeding animals or animals used for AI collections.

3. Commercial trade in ruminant and porcine products of animal origin (POAO)

The Republic of Ireland is the top exporter of meat and meat products to Great Britain, (exporting just over 349 million kg equating to £1.85 billion in value). The Netherlands, Germany, Poland and Denmark all export over 160 million kg (estimated at around £600 million trade value) of POAO to Great Britain annually. The overall total for all countries combined was about 1.38 billion kg and £5.68 billion (Figure 5). Figures for unpasteurised and raw milk and milk products is shown in Table 3; the top five exporting member states are Italy, France, Ireland, Spain and the Netherlands.

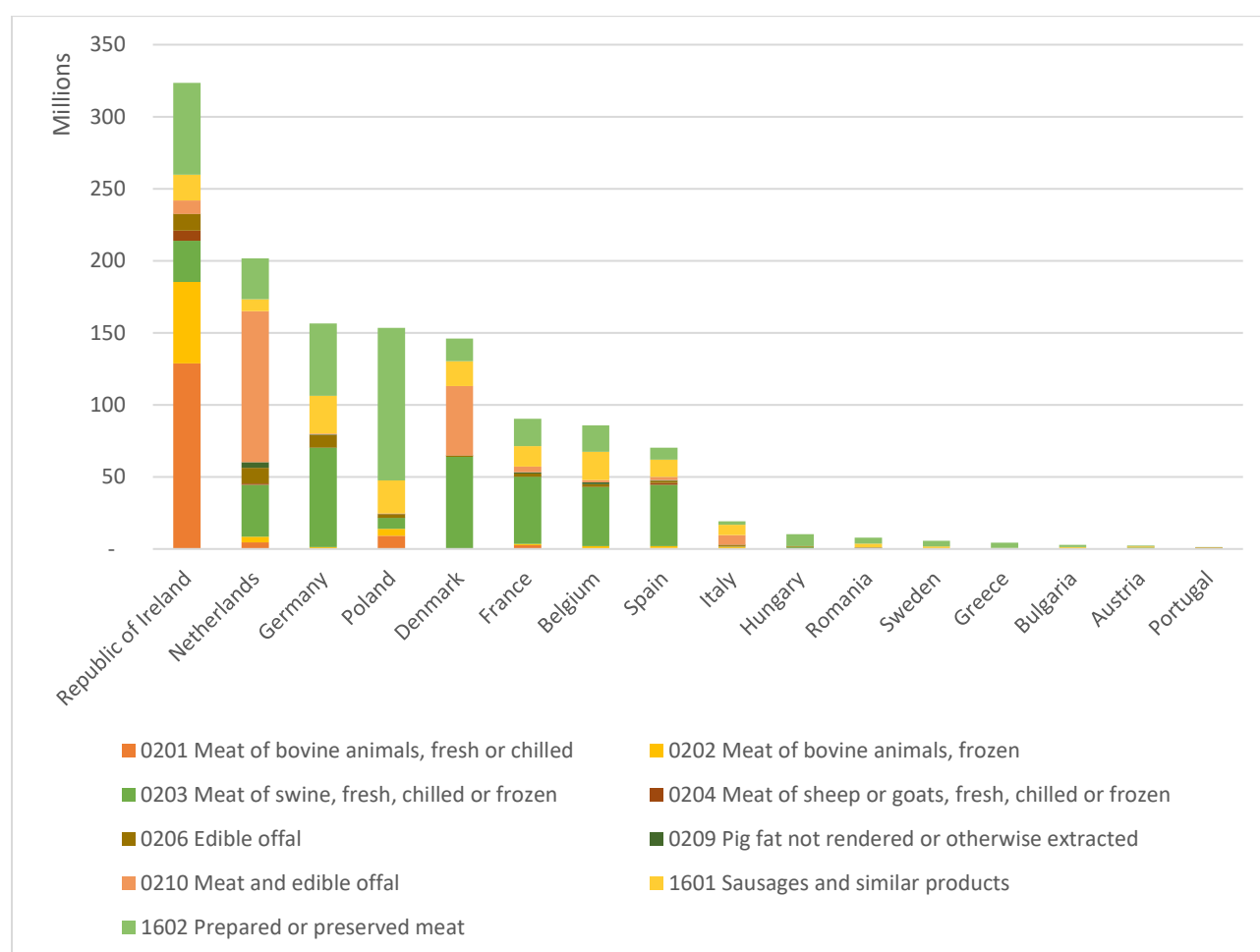


Figure 5: EU member states exporting over 1 million kg of meat and meat products in 2024 (CN code 0201-0204, 0206, 0209-10,1601-02, Source: HMRC).

Table 3: EU member states exporting unpasteurised and raw milk and milk products in 2024 by volume in Kg. (Source: APHA CIT).

Country of origin	Total net weight (kg)
Italy	12,431,283
France	2,818,035
Republic of Ireland	1,702,323
Spain	908,452
Netherlands	530,057
Germany	462,885
Switzerland	397,472
Hungary	374,719
Denmark	275,467
Greece	148,759
Poland	89,751
Cyprus	30,877
Lithuania	20,386
Latvia	18,640
Romania	14,739
Bulgaria	12,331
Portugal	5,699
Belgium	2,822
Austria	1,282
Czech Republic	949
Croatia	132

Country of origin	Total net weight (kg)
Total	20,247,059

The overall likelihood for this pathway depends on the disease status of EU member states, the robustness of surveillance and the volume of POAO imports from affected member states. We are uncertain whether the current EU mitigation measures are sufficient to prevent the movement of infected POAOs out of FMD affected regions. The measures currently implemented vary by member state, and so does their degree of severity. Moreover, there is a significant risk that the disease may spread undetected from an infected member state to a country currently free from FMD and then on to Great Britain through POAO. Consequently, it is considered that countries with historically high trade volumes and proximity to Hungary and Slovakia, such as Poland, carry the highest potential risk to Great Britain. There is no data available on the exact nature of consignments which move through intra-community trade, and instead Comtrade data on customs codes is used. The data suggest high value trade from Poland to the affected countries, Austria and Czechia, but also a significant volume moving into Poland. This concern, that FMD virus may spread through the movement of POAO to other countries, is particularly relevant given our significant trade volume in POAOs with Poland. Therefore, the likelihood of FMD virus entry into Great Britain from commercial POAO is considered to be **medium (high uncertainty)**.

4. Commercial trade in animal by-products

Animal by-products (ABP) from susceptible species may provide a source of infectious FMDV. This includes hides and skins, fur and wool, pig bristles, raw trophies, rendered fats, bones and processed manure from ruminant and porcine animals. These products must be derived from Category 3 materials referred to in Article 10 of Regulation (EC) 1069/2009 and must have been produced in accordance with the requirements of Annex XIV, Chapter II of Regulation (EU) 142/2011. On dispatch to Great Britain, the material must be enclosed in sealed containers or vehicles or carried in bulk in a ship. Many of these products must enter Great Britain through a border control post. Many of these products are processed before export, although not necessarily to a degree which would mitigate against FMD. ABPs from susceptible species which are not treated to mitigate against FMDV are prohibited from being imported from countries with known FMD outbreaks by our own safeguard measures, which do not allow regionalisation. However, such provisions are not in place for intra-community trade, therefore the risk that FMDV will spread silently into a new member state through the movement of ABPs, while less than that for POAO is still considered to be a possible pathway for further spread. It is not possible to assess the risk levels for intra-community trade as volumes are not known. This risk to Great Britain through

ABPs is assessed as **very low** (**low** uncertainty), based on the requirements for processing and low volumes moving to Great Britain.

5. Commercial trade in goods packaged with straw

Straw is used to pack other commodities including plant imports, equipment, and as bedding for non-susceptible animals such as pets and horses. These packing materials are not considered high risk material for either Plant Health Inspections or other border movements. Indeed, these commodities have been imported from all global regions including FMD endemic countries for many years and have not to any knowledge, resulted in new outbreaks in free countries, although it was considered a possible cause of the FMD incursion into Japan in 2000, from imported straw from China contaminated with low levels of FMD O ME-SA (PanAsia).

Cereals, together with straw and forage/roughage, were estimated in the EFSA Expert Knowledge Elicitation to have the highest likelihood of containing infectious ASFV at the place of production in affected areas, because of their potential for being contaminated with ASFV through remains of wild boar carcasses, wild boar saliva and blood. The same consideration should be given to FMD.

Straw currently available for retail sale is very likely to have been harvested before the cut-off date for exposure of 1 February 2025. Possible post-harvest exposure to FMD infected animals is unlikely but cannot be ruled out. Overall, it is considered that there is a **very low likelihood** of FMDV entering the UK on packaging straw (**low** uncertainty), reduced further by the time for transport and further storage or disposal.

6. Personal imports of ruminant and porcine POAO

Since leaving the EU, the personal movement of POAO from the EU and non-EU countries into Great Britain has been illegal under United Kingdom Statutory Instrument 2020/1462. This is subject to specific exemptions for infant milk, medical foods and certain composite products. However, the legislation is currently (as of 3 April 2025) suspended for goods from EU and EFTA countries, the Faroe Islands and Greenland during the Transitional Staging Period. Live animals, germinal products and untreated wool, hair, skins and hides are not permitted for personal import under separate rules.

As a result of animal disease outbreaks in the EU, safeguard measures have been introduced to restrict certain personal imports from the EU. Safeguard measures for the importation of porcine products from third countries were introduced in September 2022 under The African Swine Fever (Import Controls) (England and Scotland) Order 2022. Additional safeguard measures were introduced in response to the spread of

ASF in September 2024 and to outbreaks of PPR and FMD in August 2024 and January 2025, respectively.

As of 3 April 2025, personal imports of pork, beef, lamb, mutton, goat, venison, products made from these meats, and milk and dairy products are only permitted if the packages are under 2kg, commercially packaged and stamped with an EU health mark or EU identification mark. These safeguards were introduced because compared to imports of commercially packaged, produced and marked goods, there are multiple uncertainties regarding the production, traceability and biosecurity of imports originating from non-commercial or backyard production.

Due to FMD outbreaks in the EU, any personal imports of these products are not permitted from Germany, Hungary or Slovakia. Due to PPR outbreaks in the EU, any personal imports of sheep or goat milk or dairy products are not permitted from Bulgaria, Greece or Romania.

The current personal import restrictions are summarised in Table 4. This is a complex and dynamic matrix of restrictions which is challenging to communicate and understand. There is limited data available on the quantity of personal imports and levels of compliance as checks do not take place on 100% of vehicles, passenger luggage or parcels entering Great Britain. Personal imports also pose a particular challenge for traceability as the origin of the POAO cannot be ascertained as they are not accompanied by health certification.

We consider this pathway to have a likelihood of **medium (high uncertainty)**. If the current personal import restrictions are followed, then as goods that are not commercially produced, packaged and marked would not be entering Great Britain, the risk is **medium** and the same as for commercial pathways of POAO. Furthermore, commercially produced goods are only permitted to originate from countries or, if regionalisation has been recognised, approved areas that are free from disease. Commercially produced goods will not originate from restricted premises provided correct control measures are applied by the country of origin. This likelihood may be lowered if there is a reduction in the volumes imported through this route following the introduction of further proposed restrictions limiting personal imports from the EU (Table 4).

The uncertainty is **high** due to the limited data availability on quantity and compliance. Additionally, there is a **high** level of uncertainty due to the extent of undetected spread of FMD in the EU, particularly in Hungary, Slovakia and neighbouring countries, which could increase the likelihood of commercially produced personal imports contaminated or infected with FMD entering Great Britain.

Table 4: Existing and proposed safeguards for personal imports from the EU as of 3 April 2025. Current safeguards reflect the combined impact of ASF, PPR and FMD outbreaks across the EU.

Country of Origin	Proposed FMD restrictions on ruminant and porcine meat and dairy products		Current FMD restrictions on ruminant and porcine meat and meat products (15 Jan 2025 onwards)		Current ASF restrictions on porcine products (any POAO, ABPs or derived products)		Current PPR restrictions on sheep and goat milk and milk products	
	Commercially packaged	Not commercially packaged	Commercially packaged	Not commercially packaged	Commercially packaged	Not commercially packaged	Commercially packaged	Not commercially packaged
Germany	No	No	No	No	Up to 2kg	No	Yes (no 2kg limit)	No
Hungary	No	No	No	No	Up to 2kg	No	No	No
Slovakia	No	No	No	No	Up to 2kg	No	Yes (no 2kg limit)	No
Austria	No	No	No	No	Up to 2kg	No	Yes (no 2kg limit)	No
Greece	No	No	Up to 2kg	No	Up to 2kg	No	No	No
Romania	No	No	Up to 2kg	No	Up to 2kg	No	No	No
Bulgaria	No	No	Up to 2kg	No	Up to 2kg	No	No	No
EU and EFTA countries, the Faroe Islands and Greenland	No	No	Up to 2kg	No	Up to 2kg	No	Yes (no 2kg limit)	No

7. Illegal imports of live animals

The illegal movement of live animals of FMD susceptible species from continental Europe to Great Britain is less likely due to logistics but cannot entirely be ruled out. The uncertainty relates to the lack of data on the number of live animals illegally imported which avoid any border checks. There are non-compliances with veterinary certification, but these are mostly inconsistencies with animal identification and documentation. Physical checks such as clinical examinations are not done on 100% of consignments. As the FMD situation is emerging, there is additional uncertainty regarding how far disease has spread before detection. This pathway is believed to be **very low** likelihood (**medium** uncertainty).

8. Illegal imports of ruminant and porcine POAO

Illegal trade of POAO is difficult to quantify but the risk may be heightened at present, demonstrated by the two recent and separate incursions of FMD into the EU. The route of incursion of these outbreaks is currently unknown but is possibly through the exposure of illegally imported products, which were contaminated or infected with FMD, to livestock. Previous jumps observed for ASF demonstrate the ease of disease transmission across the EU, which is aided by the free movement of people. There are no restrictions on the movement of commercially or non-commercially produced POAO for commercial trade or personal consumption across the EU single market area, which increases the risk of transmission between countries. Furthermore, there are no restrictions on the movement of POAO for personal consumption from FMD restriction zones in EU member states.

Illegal imports of POAO may be unintentional, resulting from a misunderstanding by passengers of the restrictions in place for personal imports. Alternatively, they may be an intentional circumvention of the personal imports restrictions but still be intended for personal consumption. POAO may also be imported illegally for commercial sale but claimed to be for personal consumption.

Between 2022-2024, approximately 7,900 seizures totalling 527,000kg of illegal imports of POAO entering the UK were seized from passengers arriving from EU and non-EU countries across all Port Health Authorities in the UK (Tables 5 and 6). This included approximately 5,140 seizures totalling 198,000 kg of meat. In 2024 alone, over 92,000 kg of illegal imports of POAO entered through the port of Dover.

Table 5: Approximate total seizures of illegal imports of **all products of animal origin (POAO)** entering the UK by quarter from 1 January 2022 to 31 December 2024.

Quarter and year	Number of seizures	Kilograms seized	Annual totals
2022 Q1	850	13,000	2,400 seizures totalling 128,000kg
2022 Q2	450	63,000	
2022 Q3	500	21,000	
2022 Q4	600	31,000	
2023 Q1	800	30,000	2,900 seizures totalling 164,000kg
2023 Q2	700	43,000	
2023 Q3	700	55,000	
2023 Q4	700	36,000	
2024 Q1	650	40,000	2,600 seizures totalling 235,000kg
2024 Q2	700	58,000	
2024 Q3	500	53,000	
2024 Q4	750	84,000	

Table 6: Approximate total seizures of illegal imports of **meat (only)** entering the UK by quarter from 1 January 2022 to 31 December 2024.

Quarter	Number of seizures	Kilograms seized	Annual totals
2022 Q1	470	2,000	1,370 seizures totalling 25,000kg
2022 Q2	230	3,000	
2022 Q3	270	4,000	
2022 Q4	400	16,000	
2023 Q1	500	9,000	1,890 seizures totalling 59,000kg
2023 Q2	440	22,000	
2023 Q3	450	11,000	
2023 Q4	500	17,000	
2024 Q1	450	16,000	1,880 seizures totalling 114,000kg
2024 Q2	500	36,000	
2024 Q3	390	10,000	
2024 Q4	540	52,000	

Since safeguard measures were introduced for the importation of porcine products from third countries in September 2022, entry ports to Great Britain have been monitored to varying degrees, with vehicles targeted based on country of origin, indicated by their number plate, and suspicion of illicit activity. Where this has been recorded, a breakdown of seizures by country of origin of the transporting vehicle and the total volume of seizures of POAO is shown in Table 7. The top three countries of origin by volume of seizures are Romania, Moldova and Ukraine, as determined by vehicle registration of all those targeted.

Table 7: Total volume (KG) of seizures of illegal imports of POAO entering the UK from September 2022 to February 2025 by country of origin of the transporting vehicle (where recorded).

Vehicles' country of origin	2022	2023	2024	2025	Total
Belgium	-	85.50	-	-	85.50
Bulgaria	-	64.18	3,693.20	1,688.30	5,445.68
Croatia	-	42.50	-	-	42.50
Czechia	-	7.10	29.00	-	36.10
Eastern Europe	1,850.33	-	-	-	1,850.33
France	-	15.45	30.00	-	45.45
Hungary	41.30	-	196.40	-	237.70
Italy	-	31.00	114.00	-	145.00
Latvia	68.44	119.25	121.50	125.00	434.19
Lithuania	107.41	1,707.42	2,201.40	1,006.90	5,023.13
Moldova	-	2,287.40	15,558.10	5,854.20	23,699.70
Netherlands	-	500.00	-	-	500.00
Nigeria	-	-	1.50	-	1.50
Poland	242.85	618.51	1,625.20	1,148.50	3,635.06
Portugal	-	21.85	3.34	-	25.19
Romania	1,949.91	35,560.50	58,728.90	31,827.32	128,066.60
Slovakia	10.86	245.60	1819.60	22.80	2,098.86
UK	16.26	255.70	2,408.80	490.10	3,170.86
Ukraine	2.30	149.00	5886.00	1,060.60	7,097.90
Unknown	29.91	3,704.34	61.80	145.70	3,941.75
Total (KG)	4,319.573	45,415.29	92,478.74	43,369.42	185,583

Evidence from these inspections at Great Britain's ports between 2022 to 2025 demonstrates that there are frequent occurrences of vehicles bringing ruminant and porcine meat into Great Britain from the EU, including from regions affected by FMD and other notifiable exotic diseases, such as ASF and PPR (Figure 6). During these inspections, Port Health Authorities have reported seizing large quantities of porcine POAO which appeared to be home-slaughtered and have arrived in Great Britain from an undisclosed origin as a self-declared personal import, with poor levels of biosecurity and food hygiene. Compared to imports of commercial goods, either through commercial or personal import routes, there are multiple uncertainties regarding the production, traceability and biosecurity of imports originating from backyard production. Other intelligence work has shown that personal POAO imports are entering Great Britain through door-to-door parcel delivery companies from various EU countries, including those currently affected by FMD.

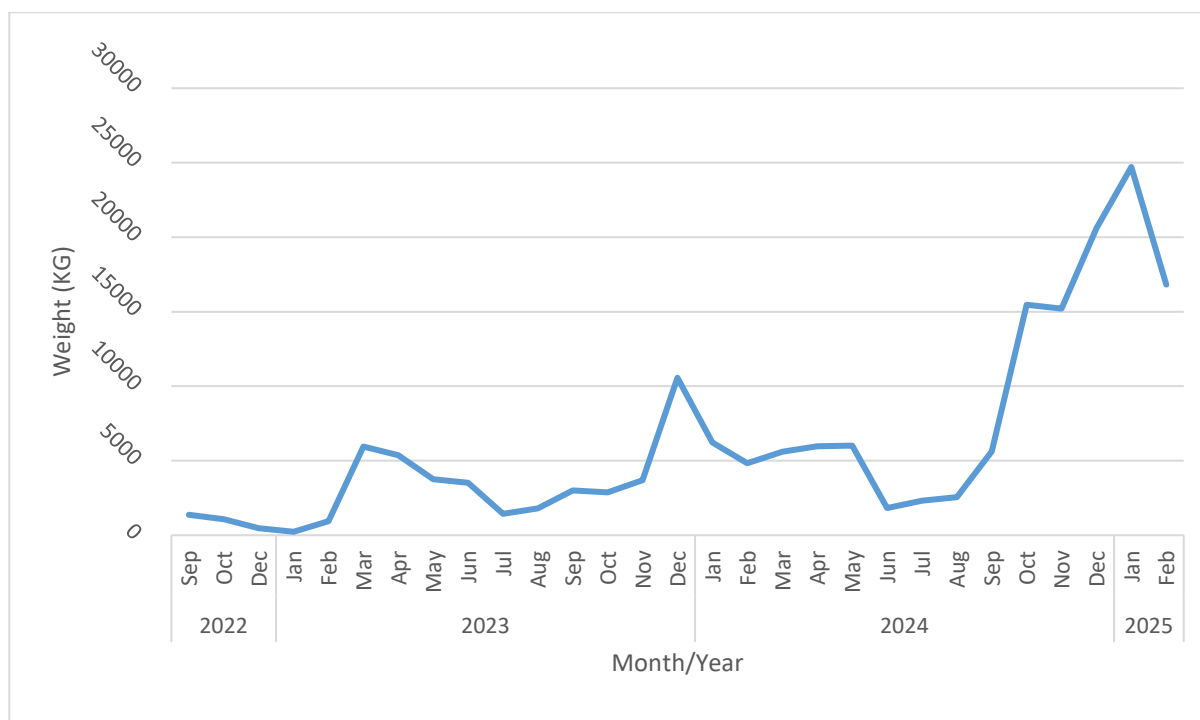


Figure 6: Weight (KG) of seizures of illegal imports of POAO entering the UK through the Port of Dover per month from September 2022 to February 2025. Full dataset included in Appendix 2.

The graph in figure 6 shows a gradually increasing trend of products of animal origin seized at the point of entry to the UK from 2022 to 2025. The volume of goods seized peaks in December 2023 and October 2024 with the largest peak in January 2025.

Although illegal imports are of relatively low volume compared to commercial imports, the incidents that are detected are likely to be a serious underestimate of the true volume as checks do not take place on 100% of vehicles, passenger luggage or parcels entering Great Britain. Illegal imports of POAO are transported into Great Britain without health certification, so the product origin and method of production is often unknown, and biosecurity during transportation may be poor. For example, the cold chain may not have been maintained, the packaging may be leaking, and the meat is not fit for human consumption. These imports have continued to occur despite the introduction of further safeguard measures in 2024 and 2025, which have resulted in the current restriction of personal imports from the EU to only allow 2kg of commercially packaged, produced and marked goods (Figure 6). The average (mean) weight of a POAO seizure entering the UK through the Port of Dover between September 2022 and February 2025 was 115.83kg. Since September 2024, when a safeguard measure was introduced to restrict personal imports of porcine meat and meat products to 2kg of commercially packaged, produced and marked goods, the average (mean) weight of a POAO seizure has increased to 158.30kg. However, as checks are not implemented on 100% of passenger luggage and parcels, this may not be an accurate reflection of the majority of personal imports entering the UK.

Since the introduction of a safeguard measure to restrict personal imports of porcine meat and meat products in 2022 in response to increased risk of ASF, various risk mitigations have been implemented to target this pathway. These include improved communications with Border Force officers, increased intelligence around illegal trade, enhanced communication around the risks of importing POAO, and targeted operations and the use of dogs to detect POAO in some airports. These risk mitigations may explain why the data shown indicates that seizures of illegal imports of POAO have increased since the introduction of safeguard measures restricting imports of these goods. However, continued seizures of prohibited goods demonstrate that illegal imports of POAO continue to occur.

Due to the continued detection of illegal imports of POAO into Great Britain, we consider this pathway to have a risk likelihood of **medium (high uncertainty)**. The high uncertainty is a result of unknown origin of POAO, the disease status of the country of origin, the level of undetected spread of FMD in the EU, and unknown adherence to biosecurity requirements of the premises of origin, especially if non-commercially produced. This likelihood could increase to high if accurate data was available to reflect the number of illegal imports but may be lowered with a reduction in the volumes of illegal imports.

9. Passengers traveling by air, sea or rail transporting fomites

FMD virus can be carried on contaminated objects, including clothing, equipment, boots and non-susceptible animals. The virus can survive drying and may persist for days or weeks in organic matter under moist and cool conditions. Reported survival times include up to 20 weeks on hay, 4 weeks in cow hair at mild temperatures, 14 days in dry faeces, 39 days in urine, 6 months in slurry during winter, and 28 days in soil during autumn. Anyone in contact with an infected area (tourists and seasonal workers) visiting or returning to Great Britain specifically if they were working on a farm or in contact with susceptible animals, has the potential to carry contaminated items with or on them.

Historically, around 71% of intentional passenger flights at UK airports travel to or from Europe. In 2024 there was an estimated 188 million passengers flying in from EU member states and countries immediately bordering them (Figure 7). Most passenger flights were from Spain (responsible for 17%), Italy, Republic of Ireland, the Canary Islands, France, Germany and Turkey. Whilst Eurostar sees around 19.5 million passengers travelling to the UK on an annual basis with direct connections to France, Belgium and the Netherlands. Between July 2023 and June 2024, over 66.5 million residents of Great Britain visited Europe, with 9.2 million of these visiting countries which joined the EU from 1 May 2004. These countries were Bulgaria, Croatia, Cyprus Southern, Czechia, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia.

There are around 38,688 ferry crossings per year on the English Channel carrying a total of 10 million passengers, while Le Shuttle typically transport 2 million passenger vehicles on an

annual basis. The country of origin of these passengers is unknown due to free movement of people within the EU.

The EU transported approximately 486.5 million passengers by air in 2023 traveling within the EU and domestically. Paris Charles de Gaulle was the busiest EU airport, handling 67 million passengers. Amsterdam Schiphol and Madrid Barajas followed closely, with 62 million and 60 million passengers, respectively). The EU recorded a total of 429 billion passenger-kilometres for rail transport. Germany was the largest contributor to rail passenger transport, with about 2.7 billion passengers in 2023, followed by France, Italy, and Spain. Overseas residents made 38.0 million visits to the UK in 2023; this was higher than in 2022 (31.2 million).

UK residents made 86.2 million visits abroad in 2023; this compares with total visits of 71.0 million in 2022. UK residents visited Spain the most in 2023, accounting for 21% of all visits abroad; this was followed by France (11%), Italy (6%) and Greece (5%). This provides ample opportunity for spread of disease between member states via fomites on passenger clothing.

Top 10 visiting countries to the UK, 2023

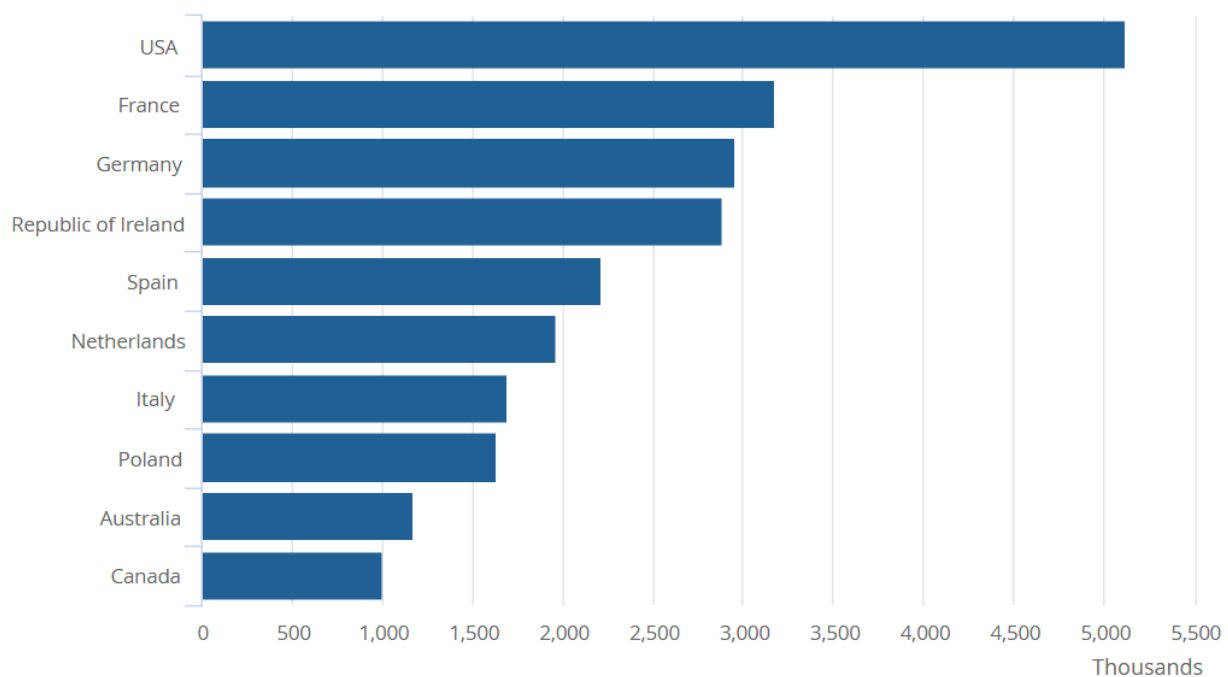


Figure 7: International passengers visiting the UK. Source: International Passenger Survey 2023 from the Office for National Statistics.

The bar graph in figure 7 shows an estimate of the number of people who visited the UK by country of origin in 2023. The highest number of people arrived from the USA followed by France, Germany, Republic of Ireland, Spain, the Netherlands, Italy, Poland, Australia and Canada in tenth place.

The current known FMD infected regions are limited to parts of Germany (a regionalised 6km zone), Hungary and Slovakia with further restricted zones encompassing Austria. There is potential for parts of Czech Republic and Poland to report cases in the near future. Uncertainty remains around the true extent of disease presence in the EU.

Given the large volume of passengers moving around the EU and travelling to Great Britain, the risk that people will arrive in Great Britain with contaminated clothing or equipment over the next three months is considered **low to medium (high uncertainty)**. The uncertainty is due to the unknown spread of FMD infected zones and the activities that may be carried out in them leading to exposure to fomites. The medium risk level is applied to those who have been working with susceptible animals or farms in affected regions.

10. Hunters, army personnel and service animals

The number of hunters travelling to and from Europe is uncertain as there is no requirement to declare the activity for which you are travelling. However, the EU requires non-EU hunters to have a valid hunting license, a hunting card for the specific area, and a European Firearms Passport or a letter of invitation from a hunting provider.

Slovakia has a rich hunting tradition offering a variety of game species, including red deer, roe deer, wild boar, and Tatra chamois. As of 2014, Slovakia had 1,867 registered hunting grounds covering an area of approximately 4.4 million hectares. Hungary has about 1,400 hunting districts, 715 hunting clubs attracting around 25,000 to 30,000 foreign hunters annually. Whilst in Austria in the 2023/2024 hunting season, there were 137,367 valid annual hunting permits issued in Austria. This figure includes both resident and guest hunters. Guest hunting permits, which allow non-residents to hunt, numbered 13,532 in the same period. In the Czech Republic, there are approximately 100,000 hunters actively involved in hunting activities, this number includes both local hunters and those visiting from abroad. In Great Britain, there are approximately 400,000 to 500,000 people involved in shooting sports, which includes hunting but is not limited to it. There is no publicly available information on how many Great Britain residents go hunting in the mentioned countries. Under Section 17 of the Firearms Act 1968, a visitor to Great Britain may, if granted a visitor's permit, have in their possession firearms, shotguns or ammunition without holding a certificate. In the financial year ending March 2024, 4,944 people were covered by individual or group visitors' permits for firearms or shotguns, issued by police forces in England and Wales. However, data about the permit holders' country of origin or whether they were participating in hunting is not available. Hunters risk virus transmission through direct contact with infected animals, their carcasses, or contaminated products, this will be heightened by the use of working dogs for hunting. Additionally, improper handling of animal products can lead to environmental contamination and, less commonly, airborne transmission.

Since January 2021, rules for traveling with assistance dogs from Great Britain to Europe have changed. Assistance dogs are recognized and accommodated under EU regulations, but there are no centralized records on their travel numbers. The British Army utilizes Military Working Dogs for various roles, including patrols, explosive detection, and force protection. British Army service dogs are deployed globally, including in Europe, to support

military operations. However, specific numbers of dogs traveling between Great Britain and Europe are not detailed in available sources.

There is no specific information available on the number of NATO army personnel stationed in Great Britain. NATO does not maintain permanent bases or personnel in the UK; instead, it coordinates multinational military operations and exercises. However, the UK contributes significantly to NATO operations and hosts various NATO activities and exercises. Of the 5,700 British Service Personnel, about two-thirds are in Europe. The British Army maintains several bases and operations across Europe, serving strategic, training, and NATO commitments these are located in Germany, Gibraltar, Cyprus, Estonia, Poland, Norway and the Czech Republic. The base in Czech Republic is based approximately 200 km by road from the current centre of FMD outbreaks in Slovakia. In January and February of 2025, over 2,600 UK personnel participated in NATO exercises in Eastern Europe, specifically in Romania and Bulgaria.

NATO has a significant military presence within the EU, with bases in several member states. There are 27 EU member states that are also NATO members, many of which host NATO facilities. Key locations include Germany, Poland, Lithuania, Latvia, Estonia, Romania, and Bulgaria, each hosting various NATO installations such as battlegroups, command centres, and operational bases. The exact count of all NATO bases in the EU is not specified.

All MoD staff and equipment much comply with biosecurity information which is provided by APHA on use of disinfectants and risk areas. This information has been updated to cover FMD affected regions.

Given that a hunter, tourist, or British service member may walk in areas which are potentially contaminated with FMD, it is possible that they will collect soil on their boots, clothing and other equipment. These could then be mechanically introduced into Great Britain. However, no data is available for minimal infectious dose of FMD virus from fomites.

The likelihood of persons in this pathway or their service animals being exposed to FMD infected animals (domestic or wild) or fomites in the environment will vary depending on the region and the nature of their activities paired with the current uncertainty on the extend of spread of disease in Europe it is difficult to assess. However, given the volume the annual likelihood is currently considered **low (high uncertainty)**.

11. Vehicles (commercial, freight and passenger)

There is very limited trade in livestock from the currently known FMD affected regions. However, there is no information on the number of commercial vehicles (vehicles not moving consignments of POAO) that have moved livestock to and from the affected countries which could have been used to transport products other than livestock to Great Britain. Only

livestock vehicles are required to be cleansed and disinfected before entering a commercial cattle, pig, sheep or goat farm. Whether these livestock vehicles are sufficiently cleaned and disinfected is uncertain. There is also uncertainty related to the survival of the FMD virus and potential environmental contamination in areas with high levels of infected domestic animals.

For passenger vehicles entry to Great Britain from mainland Europe for road vehicles is by ferry or the channel tunnel. These routes do not provide a direct link to a country with a high level of infection, but any road vehicle coming from such countries is likely to use these routes.

In 2022, the following European countries had the highest tonnage of goods transported to the UK by UK-registered HGVs: Belgium: 1.11 million tonnes (32%), France: 1.09 million tonnes (31%), the Netherlands: 0.42 million tonnes (12%), Germany: 0.26 million tonnes (7%) and Ireland: 0.25 million tonnes (7%). This data is based only on HGV trips and may be part of a multi-modal journey, the final origin or destination of the HGV may not be the ultimate origin or destination of the goods. In 2018 and 2019, Polish HGVs lifted the largest tonnage of goods to and from the UK in total of all the EU27 countries, lifting 10.2 million tonnes

In 2022, heavy goods vehicles registered in the EU transported a total of 13.6 billion tonnes of goods, with a transport performance of 1,920 billion tonne-kilometres (tkm). The highest levels of road freight unloaded were recorded in Lombardia in Italy and Cataluña in Spain, while Aragón in Spain had the highest level of road freight unloaded per inhabitant (Figure 8). There is no accessible data for private vehicles movements from Europe. For this risk pathway, no information is available on passenger vehicles (commercial vehicles, such as buses and coaches). There is also no specific information on movements of military equipment and vehicles, however the recent most British Army exercise in Europe was noted to have 730 vehicles. Some of these will be used on exercise and disinfected in areas where disease is known, others are tarmac only and must still be cleaned.

Road freight transport, 2022

(1 000 tonne-kilometres per inhabitant, by NUTS 2 region of unloading)

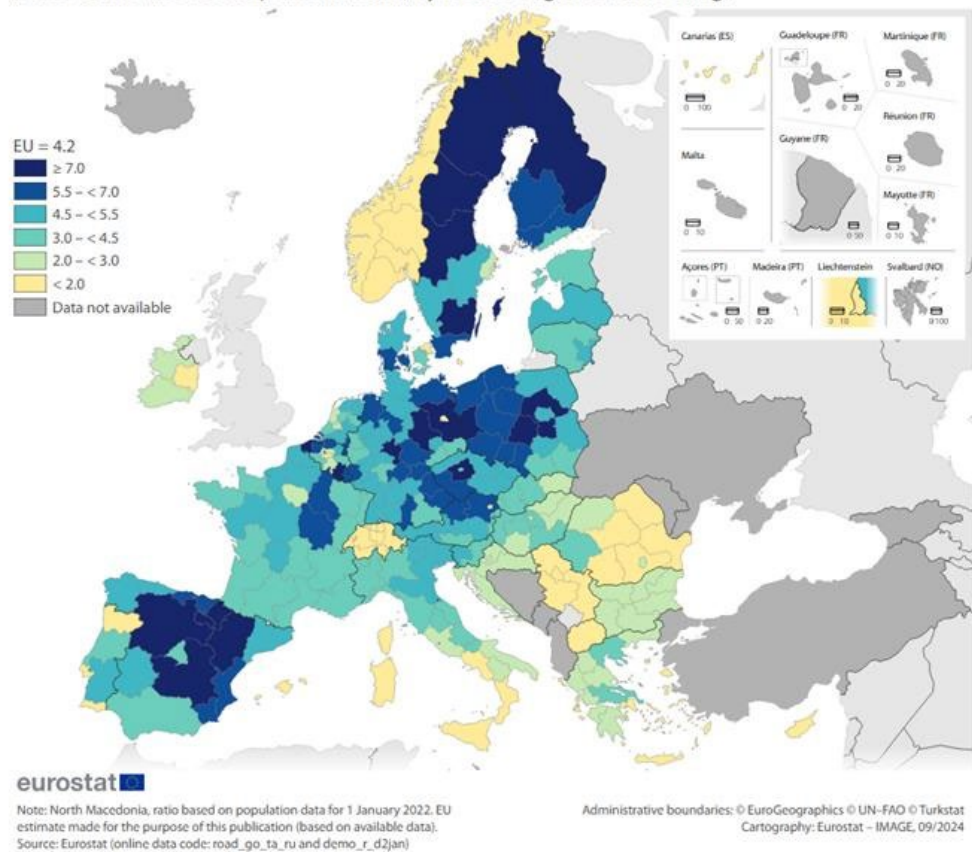


Figure 8: Road freight transport in 2022

The map in figure 8 shows the number of road freight vehicles which have unloaded per inhabitant in each of the NUTS 2 regions across the European Union and EFTA countries in 2022. The data show a variable distribution across different countries with areas of Sweden, Finland, Spain, Poland and Germany having the highest number of vehicles and areas of Norway, Romania and Italy having the lowest number.

High biosecurity commercial farms and farms subject to FMD disease control restrictions should have restricted access, but vehicles may pass through areas where wildlife are infected and therefore there is high environmental contamination. Although cases are only currently detected in Hungary and Slovakia, there is a high likelihood that disease is present on other farms or wild animals. There is no requirement for private vehicles to be cleansed and disinfected before entering Great Britain. However, the current driving distance and time of driving between Great Britain and Northeast Hungary / Slovakian border where disease is present will offer some degree of mitigation of the risk, it would however be dependent on the level of contamination and the degree of cleaning and disinfection carried out, if any. This would also decrease as distance of infected premises to Great Britain decreases. If FMD virus was spreading via these transport systems as fomite contamination, we would

expect spread along highways between affected areas and the intervening EU member states.

Vehicles which have been in contact with backyard ruminants or pigs or used to carry equipment for hunting, pose a greater risk than vehicles with no contact with animal-related activities. It is unknown how many vehicles from Great Britain travel to the currently infected region for the purpose of hunting or visiting backyard production and the volume of traffic which could enter Great Britain from these areas or having travelled through.

The UK has over 120 commercial ports that handle cargo while the EU has more than 1,200 seaports. In 2023, major UK ports handled a total of 103.6 million tonnes of freight, with inward tonnage at 69.2 million tonnes and outward tonnage at 34.4 million tonnes. The total UK port traffic was approximately 436 million tonnes in 2022. Of the international tonnage traffic through UK ports, 53% involved trade with the EU, indicating that about 55 million tonnes of maritime cargo were EU-related. Crew and passengers may carry POAO, vehicles may be contaminated with virus, and catering waste may contain contaminated meat and dairy. For transport within the EU, international catering waste is treated as category 2 ABP which requires a low level of disposal. There are no category 2 level ABP plants in Great Britain and therefore all waste should be disposed of as category 1.

There are several possible pathways for FMDV to enter the UK on vehicles. Overall, the risk that FMDV will spread into Great Britain from vehicles over the next three months is considered **low (high uncertainty)**.

12. Animal feed, bedding, and crops

EFSA undertook two relevant opinions looking at processing methods and prohibitions for category A diseases and also on the risk of importing feed for the movement of African swine fever virus into non-affected countries.

Scientific evidence is required to conclude that the movement of the animal products, animal by-products and movements of feed of plant origin and straw would be safe.

Cereals, together with straw and forage/roughage, were estimated in the EFSA Expert Knowledge Elicitation for feed matrices and ASF virus to have the highest likelihood of containing infectious ASFV at the place of production in affected areas, because of their potential for being contaminated with ASFV through remains of wild boar carcasses, wild boar saliva and blood. The same should be considered the case for FMD virus, although the FMD virus is less resilient than the ASF virus, but there are a wider range of wildlife species which could also present a fomite risk for FMD.

The likelihood related to cereals was estimated to be lower, based on a more careful harvesting process relative to forage/roughage. Furthermore, longer storage of cereal grains

and drying at ambient and high temperatures is expected to result in lower probabilities of ASFV survival to the point of usage. For cereals, it was considered that a large proportion of grains harvested will be used as animal feed and will go directly to a farm. The rest will be used to produce compound feed. Cereal grains would be transported mostly by ship and in high volumes and could be equally produced in Eurasia as in the EU. For cereals originating from Eurasia, traders have large storage capacities and shipment distance/duration is larger, which may reduce probabilities of virus survival. Many small farms were considered to produce their own cereal grains or to use compound feed rather than commercial grains. For the larger commercial farms, it is quite possible that one lorry delivers a full consignment to only one farm. For larger shipping containers, these are more likely to be delivered to feed merchants and then distributed.

Regarding blood products (spray-dried blood plasma) and hydrolysed proteins, the fact that pigs from affected areas will not be allowed to be used for their production, and that there is a short time window in which animals can be infected without showing clinical signs, combined with the production procedures for the products, results in estimates of infectious ASFV (let alone FMD virus) at the time of usage in the lower boundaries of the given assessments. There is a risk that in recently infected areas, the infection of animals that do not yet show clinical signs might go undetected at ante- and post-mortem inspection in slaughterhouses.

Therefore, the overall risk level for incursion of FMD via feed is considered **very low** (**medium** uncertainty), given the limited number of cases in the EU and the harvest /storage time. This uncertainty is mostly based on the lack of scientific evidence and the reliance on expert elicitation.

13. Wildlife

In Europe, wild boar and roe deer are the main species of wildlife with recordings of clinical FMD. Apart from African buffalo, wildlife is not considered to maintain virus circulation but can play a role in transmission to livestock. The first case of FMD in the 2011 Bulgarian outbreak was reported in a wild boar. Serological surveillance of susceptible wildlife in Bulgaria was performed from between February 2011 and January 2012, seropositive results were found in wild boar and roe deer. Results were 6.9% in wild boar (N=56/812) and 4.4% in roe deer (N=3/68). The distribution of seropositive wildlife indicated up to 15km of localized spread around FMD outbreaks in livestock.

The geography of Europe allows for movements of wildlife across borders to neighbouring member states. Natural barriers and urban areas can limit wild boar movement, as well as current ASF fencing controls. The Danube River tracks the border between Slovakia and Hungary, but there are crossing points between the two countries within the zone. Spatial behaviour of wild boar is the occupation of home ranges, which vary in size depending on the season, whether male or female, resource availability and perturbation from hunting. In

comparison studies, home ranges have been found to be between 4km² and 11km². The estimated wild boar population is shown in Figure 9.

Fencing has been implemented in areas across the EU to facilitate the control of ASF in wild boar. Although these movements cannot be eliminated, they are reported to effectively reduce movement. Belgium, Czechia, Germany and Sweden have reported to have ASF control fences and have considered them to be efficient at controlling ASF in their countries. Germany has added 1,300km of permanent fencing established in Brandenburg (160km), Saxony (250km) and Mecklenburg-Western Pomerania (63km). Fencing that reduces movements can impact the distance that potentially infected wildlife can travel, also putting a barrier between the infected wildlife and livestock, reducing the likelihood for direct contact, actions that can impact FMD control in the current situation. It is to be considered that ASF control fences are designed for wild boar and could be more permeable to wild deer.

The latest Hungarian case is approximately 8.3km from the Austrian border. The outbreak locations in Hungary and Slovakia show a large road to the North, West and south of the outbreaks, with the Danube River and urban areas between the outbreak area and the Austria border, barriers that can impact wildlife movement. Austria has included farmed game in FMD testing since January 2025 with no virus or antibody detection so far, although it is unknown if wildlife is being explored with this.

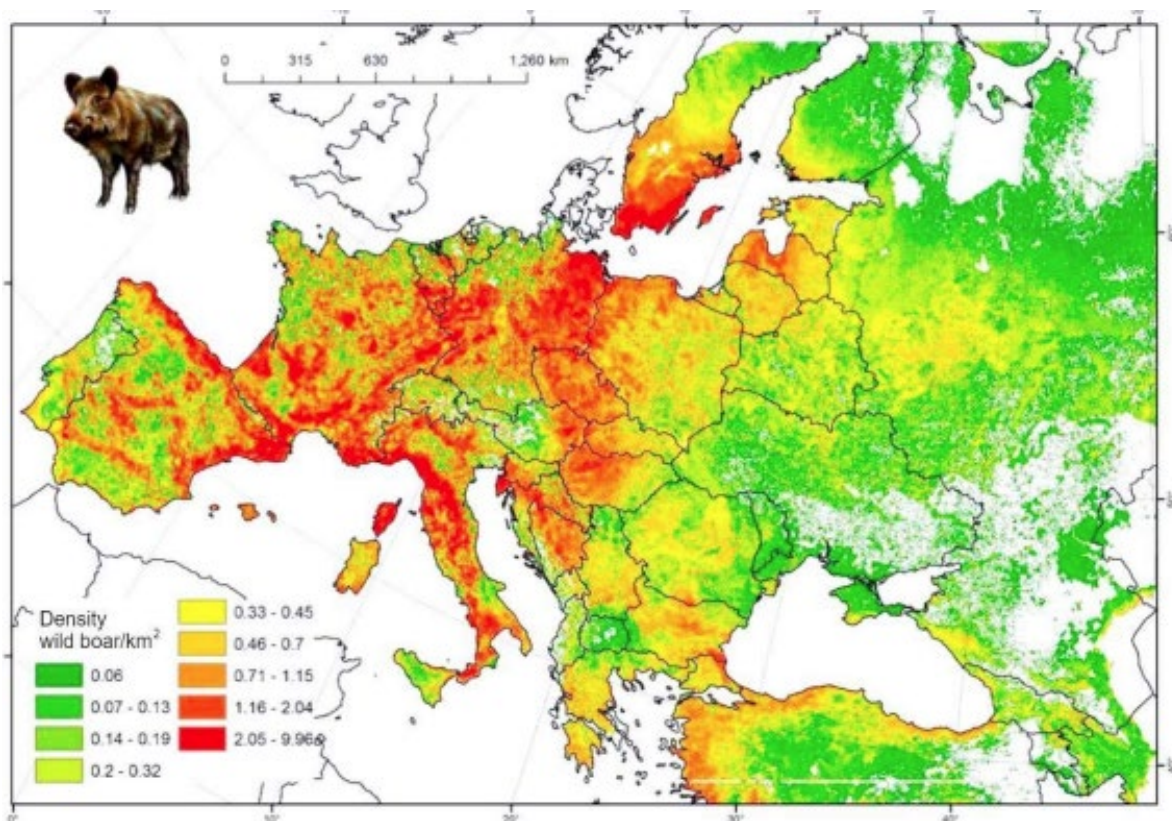


Figure 9: Estimated wild boar population in Europe (European Commission, 2024)

Figure 9 shows wild boar populations across Europe. There is a large area of dense wild boar population estimated across most of central Europe extending from the southwestern coast of Spain, south of France and northern Italy to northwestern Germany and southern Sweden.

In Slovakia, special emergency measures have been put in place for users of the hunting grounds in and out of the restriction zones. The measures that impact the risk associated with wildlife are the prohibition of capturing and moving game outside of the hunting grounds, daily monitoring of the game, and reporting found carcasses suspected of FMD. Ensure the immediate killing of game with symptoms of FMD, reporting and collection of samples for laboratory examination (State Veterinary and Food Administration of the Slovak Republic, 2025). EUVET is aiding Slovakia recommending that effort should be made to obtain as many samples as possible from wild cloven hooved game and wild boar within the 10km zone, including shot and found-dead wild boar. In Hungary from 26 March, a ban on grazing from 26 March has been applied to the affected districts of Mosonmagyaróvár and Győr, reducing the potential for wildlife-livestock interactions.

Direct contact between infected wildlife and livestock can spread disease but indirect transmission should also be considered. Infected wildlife can spread FMD via fomites and prolonged virus survival in contaminated environments, specifically areas of repetitive and prolonged contact, such as deer trails and boar wallows. Wildlife from current FMD restriction zones has the potential to move outside of restriction zones as well as across member state borders to surrounding member states, this is of concern as it has the potential for undetected spread through susceptible wildlife. There has been limited information on the monitoring of FMD in wildlife in the EU at this time.

However, the risk of FMD spreading to Great Britain via wild animals is limited due to the geographical position of Great Britain with a sea border. This effectively prevents movement of susceptible wildlife across EU borders to Great Britain. Although FMD susceptible wildlife are present throughout Europe and there is a **high** likelihood of spread outside of the known infected region due to wildlife, the likelihood of FMD entry to Great Britain through infected wildlife is considered to be at most **very low** with **low** uncertainty.

14. Aerosol / windborne

As a transmission route of FMD, airborne aerosols can cause rapid spread and lead to jumps in disease incursion beyond imposed restriction zones and across borders. Airborne transmission is defined as respiratory particles exhaled from an infected host and “partially evaporated into the surrounding air”, potential dispersal over larger distances, although specific conditions are needed to facilitate spread.

Factors that impact transmission through aerosols are virus emission, favourable weather, conditions that prolong virus survival, and large numbers of susceptible livestock exposure.

Temperatures of 21°C to 27°C and relative humidity above 55% are optimal environmental factors that can influence the survival of airborne FMD virus.

Swine have been found to excrete, as an aerosol, larger titres of virus, $10^{4.7}$ ID 50, per animal per hour than that of cattle and sheep, $10^{3.2}$ ID 50, when monitored in looseboxes (3-65 m. x 3-35 m. x 305 m). Airbourne transmission risk is more likely to be from FMD infected pigs to cattle as cattle are considered the species most susceptible to infection via respiratory routes/

Geographically, the density of pigs will impact the possibility of aerosol spread. Data on pig livestock density can be seen in Figure 10, with concentrations being shown in Slovakia and Austria, although density is higher further West and North in member states. The current outbreaks have not reported infection in pigs. EUVET in Slovakia has conveyed the importance of protecting the large pig farms in the region, through strict biosecurity, adding that possible emergency vaccination zones will require the assessment of the geographic situation, with specific mention to the current “prevalent winds” and the disposal capacity factors that impact airborne transmission.

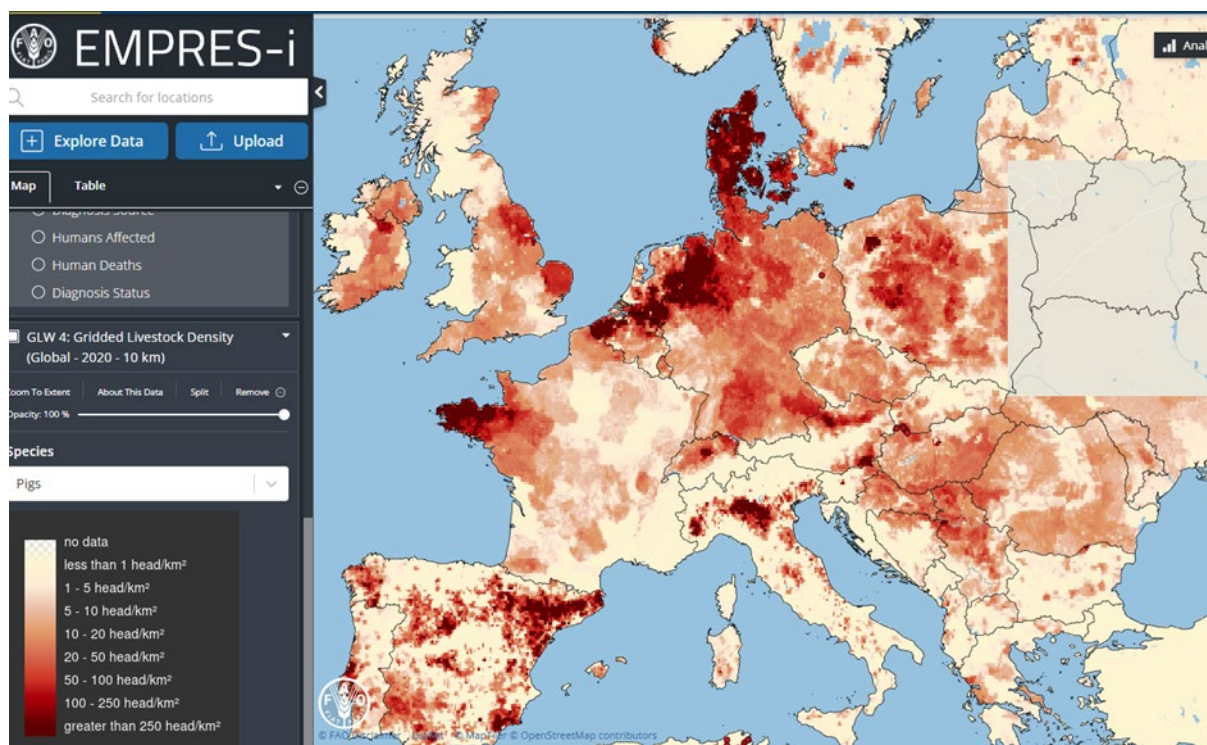


Figure 10: Pig livestock density in the European Union

Wild boar populations (Figure 9) may be able to transmit the virus via aerosol transmission. However, the size and density of social groups suggest that if wild boar were infected, the dispersal of the virus may be impacted and less concentrated unlike the plumes that accumulate from pig farms.

The 2001 epidemic in Great Britain reported airborne transmission contributing to the disease spread to seven farms across 1km to 9km. Outbreaks in the 1966 Northumberland epidemic reported transmission distances between 1km and 8 km. Simulations have shown

that pig herds of more than 100 pigs would facilitate the spread of airborne FMD over a distance greater than 0.1km.

There is limited knowledge on aerosol spread of FMD in outbreak scenarios, but there are experimental studies investigating the excretions of FMD aerosols from susceptible species. These are under laboratory conditions where important environmental and geographic factors cannot be applied to reliably predict the potential distance for spread but results show that pigs release higher titres than other species and cattle are more susceptible to respiratory infection. Information that is considered in outbreak situation.

The geography of Great Britain being an island could hinder entry but is not an absolute barrier. There is high density of pig livestock in Belgium, Denmark, France, Germany, and Netherlands, along with their coastal positions. The English Channel and North Sea vary in width from Great Britain to mainland Europe, the English Channel ranging from 34km to 240km and the North Sea from 103km to 800km. Therefore, the current risk of aerosol transmission to Great Britain over the next three months is considered **negligible** (low uncertainty).

Summary of risk of entry to Great Britain over the next 3 months

A summary of the key risk pathways for spread of FMDV into Great Britain over the next 3 months is shown in table 8.

Table 8. Summary of pathways for the entry assessment with likelihoods and uncertainty. The total likelihood and uncertainty of entry is taken from the pathway with the highest likelihood.

Entry pathway	Likelihood of entry into Great Britain over next 3 months	Uncertainty
Commercial trade in live animals	Low	Medium
Commercial trade in germplasm	Low	Medium
Commercial trade in POAO	Medium	High

Entry pathway	Likelihood of entry into Great Britain over next 3 months	Uncertainty
Commercial trade in animal by-products	Very low	Low
Commercial trade in goods packaged with straw	Very low/negligible	Low
Personal imports	Medium	High
Illegal imports of live animals	Very low	Medium
Illegal imports of POAO	Medium	High
Passengers (with those working on farms or with susceptible animals in affected areas)	Low (Medium)	High
Army personnel and hunters	Low	High
Vehicles	Low	High
Animal feed, bedding and crops	Very low	Medium
Wildlife	Very low	Low
Aerosol / windborne	Negligible	Low
Overall	Medium	High

Conclusion

This rapid risk assessment evaluates the risk of Foot and Mouth Disease Virus (FMDV) entering Great Britain due to recent outbreaks in Hungary and Slovakia. As of 3 April 2025, there have been five confirmed cases of FMD in Slovakia and four in Hungary. There are multiple pathways for the risk of entry of FMDV into Great Britain from the EU. The risk of the virus entering Great Britain over the next three months is considered **medium (high uncertainty)**, with the highest risk pathways the commercial, personal, or illegal trade of POAO.

As one of Great Britain's top five trading partners for POAO, a major concern is that the disease will spread undetected into Poland and subsequently spread FMDV to Great Britain through commercial, personal or illegal movement of POAO before clinical disease is detected in Poland.

Due to the current lack of epidemiological information on the source of the outbreak and the frequent reporting of new cases, it is likely that new cases will be detected in areas surrounding the current outbreaks. The potential for human-mediated spread and transmission through wild animal populations is particularly concerning.

Despite the introduction of multiple safeguard measures to restrict personal imports of POAO, ongoing seizures of illegal POAO imports is also of significant concern and presents a serious risk to Great Britain's biosecurity (medium likelihood with high uncertainty). Further restrictions on personal imports of POAO should also be considered to improve compliance and aid communication and enforcement of these measures.

The assessment does not consider the risk that entry of the FMDV will lead to disease in susceptible species within Great Britain or the consequences of an outbreak and should be updated regularly to reflect any changes in the epidemiological situation.

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Appendix 1: Risk assessment terminology

The terminology is used as defined in Tables 1 and 2.

Table A1. Terminology and Definitions used to Describe Likelihood of Entry (adapted from EFSA, 2006)

Likelihood	EFSA Definition
Negligible	Event is so rare that it does not merit consideration
Very low	Event is very rare but cannot be excluded
Low	Event is rare but does occur
Medium	Event occurs regularly
High	Event occurs very often
Very high	Event occurs almost certainly

Table A2. Terminology used to Describe the Level of Uncertainty in the Entry, Assessment (EFSA, 2006, Spiegelhalter and Riesch, 2011)

Uncertainty category and definition	Type of information/evidence to support uncertainty category
Low Further research is very unlikely to change our confidence in the assessed risk	Solid and complete data available (e.g. long-term monitoring results) Peer-reviewed published studies where design and analysis reduce bias (e.g. systematic reviews, randomised control trials, outbreak reports using analytical epidemiology) Complementary evidence provided in multiple references Expert group risk assessments, specialised expert knowledge, consensus opinion of experts Established surveillance systems by recognised authoritative institutions Authors report similar conclusions

<p>Medium</p> <p>Further research is likely to have an important impact on our confidence in the risk estimate</p>	<p>Some but no complete data available</p> <p>Non peer-reviewed published studies/reports</p> <p>Observational studies/surveillance reports/outbreak reports</p> <p>Individual (expert) opinion</p> <p>Evidence provided in a small number of references</p> <p>Authors report conclusions that vary from one another</p>
<p>High</p> <p>Further research is very likely to have an important impact on our confidence in the risk estimate</p>	<p>Scarce or no data available</p> <p>No published scientific studies available</p> <p>Evidence is provided in grey literature (unpublished reports, observations, personal communication)</p> <p>Individual (non-expert) opinion</p> <p>Authors report conclusions that vary considerably between them</p>

Appendix 2: Supplementary information

Table 9: Weight (KG) of seizures of illegal imports of POAO entering the UK through the Port of Dover per month from 2022 to 2025

Year and month	Total weight of seizure (kg)
2022	2,927
Sep	1,375
Oct	1,076
Dec	475
2023	43,175
Jan	234
Feb	949
Mar	5,943
Apr	5,360
May	3,749
Jun	3,523
Jul	1,446
Aug	1,804
Sep	3,011
Oct	2,875
Nov	3,704
Dec	10,579
2024	92,270
Jan	6,234
Feb	4,828
Mar	5,615
Apr	5,969
May	6,014
Jun	1,819
Jul	2,327
Aug	2,546
Sep	5,630
Oct	15,457
Nov	15,220
Dec	20,610
2025	41,546
Jan	24,716
Feb	16,830
Total	179,918

