

Preliminary Outbreak Assessment

24 January 2023

Aujeszky's disease in dogs in the Czech Republic

Disease report

In December 2022, three fatalities of hunting dogs in the Czech Republic were confirmed as cases of Aujeszky's disease (AD) (ProMed 2023). Our [last outbreak assessment](#) in September 2019 for AD in Europe reported AD in a single wild boar in Finland for the first time. Since then, only three more outbreaks of AD have been formally reported globally according to the World Organisation for Animal Health (WOAH).

Two outbreaks were on wild boar farms in France in January and February 2022 and one outbreak was on a domestic pig premises in France in March 2022. A shot wild boar also tested positive for AD in south-west Germany in May 2022.

According to the EU Animal Disease Information System (ADIS) there were 4 outbreaks of AD in France in 2022 (ADIS 2022). According to ADIS, France reported 5 outbreaks of AD in 2021 and Hungary reported seven outbreaks (ADIS 2021). These were not reported by WOAH.

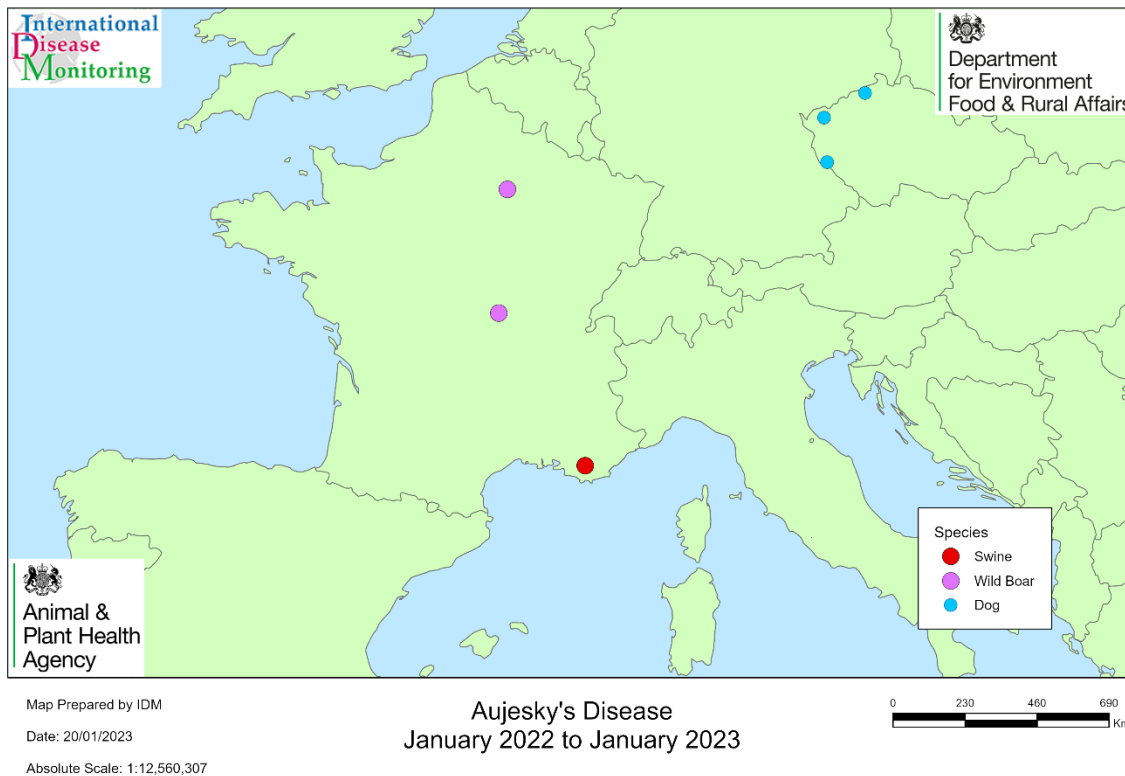
Situation assessment

AD is almost always fatal for infected dogs and other susceptible non-porcine animals. The three dogs infected in the Czech Republic in December 2022 were most likely exposed through contact with wild boar while hunting (ProMed 2023). The State Veterinary Administration in the Czech Republic has reminded pet owners of the risk posed to dogs by contact with wild boar including excreta from caught wild boar or consumption of their uncooked meat.

France has reported sporadic cases of AD over recent years. In December 2019, AD was reported on a free-range pig farm in France. The farm was located on the edge of a forest and the biosecurity was not sufficient to prevent contact with wild boar. The probable origin was reported to be contact with wild boars as was the case for the reports of disease earlier in 2019 in south-east France in a free-range small commercial pig farm. On 14 January 2022, AD virus was detected in wild boar reared for hunting at a farm in La Chapelle-sous-Orbais in north-east France.

The wild boar were tested as part of an active surveillance programme and 2 of 120 wild boar tested positive for AD virus. None of the wild boar showed clinical signs. On 14 February 2022, AD was reported in farmed wild boar kept in an enclosure on a farm in Montbeugny in central France. The 22 animals were intended for hunting.

On 18 March 2022, 2 of 5 domestic pigs on a free-range farm in Tourves in southern France tested positive for AD virus. In January 2022, cases of AD were reported in hunting dogs in the Hautes-Pyrenees department in south-west France, again through exposure to wild boar during hunting (ProMED 2022a). France has AD-free status as occasional cases do not affect disease-free status. According to the WOAAH guidelines, the herd prevalence rate in the country must not exceed 1% for the last 3 years.



Map 1: AD reports since our last assessment in January 2020. Reports from France are from WOAAH and locations of cases in dogs in the Czech Republic estimated from SVS (2023).

A wild boar shot in an African swine fever (ASF) exclusion zone in the Emmendingen district of Baden-Württemberg in south-west Germany also tested positive for AD virus in May 2022 (ProMED 2022b). There has been state-wide monitoring for AD in wild boar in Baden-Württemberg since 2011. Hunters take blood samples from wild boar that have been shot or run over and send them for monitoring.

According to figures from the wildlife research centre in Aulendorf, antibodies against AD virus were found in a total of 44 wild boar in 2020. The focus was on the Hohenlohe and Main-Tauber districts where there were five cases in Ravensburg district and 2 in Biberach district. Hound deaths from AD virus are also very rare with only four recorded in south-west Germany since 2009.

AD is a notifiable disease of pigs, caused by a Herpes virus infection. It is characterised by the appearance of nervous signs in piglets, respiratory disease and stunting in growing pigs, and abortion in adult pigs. The disease cycles in breeding herds and can spread to young pigs in finishing herds. Aujeszky's Disease virus (ADV) also infects cattle, dogs and cats, but ADV-infected pigs are the main source of virus spread.

Other species are less important in virus spread since there is usually 100% mortality, and spread is therefore interrupted (Wittmann, 1986). In addition to Europe, AD is also present in South and Central America and Asia.

ADV is carried in live animals and is generally spread by direct contact between pigs, although it can also be spread through fomites, semen, and by aerosol. Wind-borne infection can occur in areas where there is a high density of pigs and farms (Pejsak and Truszczynski 2006). In a series of outbreaks of AD in Yorkshire in the early 1980s, it has been suggested that seven of the 11 outbreaks investigated could have resulted from airborne virus (Gloster et al. 1984).

The Czech Republic is listed as free from the AD and despite these recent cases reported in dogs their freedom status is maintained. Loss of freedom status only occurs when infection is reported in domestic pigs. The International Disease Monitoring and UK Office for SPS Trade Assurance teams are closely monitoring the situation and may amend the third country listings as needed if the situation changes, if deemed appropriate.

To prevent incursion of AD into Great Britain there are strict testing controls pre-export and post-export dependent on the product type being imported and on the exporting country status.

No post import testing from Officially Free Countries is required unless the importer is considered high risk, in which case 10% of randomly selected consignments should be sampled. All consignments from non-Officially Free Countries are tested. For live porcine, imported from countries that are not free of AD, as listed in the third country listings for live ungulates (206/2010), additional guarantees including serological testing and residency periods for AD have to be met and certified. For importation of porcine semen there are many AD guarantees required, including testing to provide assurance for AD freedom for semen consignments.

In Great Britain, the last recorded outbreak of AD occurred in 1989. Officially Free status from AD was gained in 1991 (Defra, 2009) with no disease present in domestic pigs or wildlife and no use of vaccination. The most important route of entry into countries free from AD is via the importation of live pigs and semen and free movement of wild boar from areas where the disease is present (Morley, 1993 and Martinez-Lopez et al., 2009 and Boadella et al., 2012).

The current epidemiological situation suggests that for AD to enter the pig population in Great Britain, the most likely route would be via live pigs or semen. The current cases in France, Germany and the Czech Republic are too far and disparate for windborne transmission north to the UK. A live animal introduction would seem the most likely source, possibly from a trading partner considered free but where disease has been reintroduced but not detected at the time of export.

Conclusions

Aujeszky's disease occurs sporadically in farmed wild boar and domestic pigs across Europe with 16 reports in domestic pigs or wild boar from France, Germany, and Hungary in the last 2 years. The wild boar cases sometimes spill over into hunting dogs with fatal consequences, as reported on ProMED in December 2022 in the Czech Republic and in south-west France in January 2022.

Currently, we consider there to be a very low likelihood of introduction of AD virus from any affected country to the UK through various pathways, and the ongoing low levels of sporadic detections in wild boar in France, Germany and the Czech Republic do not affect this risk level. We continue to emphasise [the importance of prompt reporting of suspect disease in pigs, and the implementation and maintenance of appropriate biosecurity measures guidance](#) on identifying and reporting the disease can be found on GOV.UK/

We shall continue to monitor the situation.

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References

- Animal Diseases Information System (ADIS): Outbreaks per disease. Total outbreaks from 1 January 2021 until 31 December 2021. ([ad adns overview 2022.pdf \(europa.eu\)](#))
- ADIS (2022): Outbreaks per disease. Total outbreaks from 1 January 2022 until 31 December 2022. ([ad adns overview 2022.pdf \(europa.eu\)](#))
- Boadella M, Gortázar C, Vicente J, Ruiz-Fons F. Wild boar: an increasing concern for Aujeszky's disease control in pigs? BMC Vet Res. 2012 Jan 17;8:7. doi: 10.1186/1746-6148-8-7.
- EC 2008: Commission decision on additional guarantees in intra-Community trade of pigs relating to Aujeszky's disease and criteria to provide information on this disease. 2008/185/EC. OJ L 59, 4.3.2008, p.19 to 30.
- Gloster J, Donaldson AI, Hough MN. Analysis of a series of outbreaks of Aujeszky's disease in Yorkshire in 1981-82: the possibility of airborne disease spread. Vet Rec. 1984 Mar 10;114(10):234-9. doi: 10.1136/vr.114.10.234. PMID: 6730233.
- Martínez-López B, Carpenter TE, Sánchez-Vizcaíno JM. 2009. Risk assessment and cost-effectiveness analysis of Aujeszky's disease virus introduction through

- breeding and fattening pig movements into Spain. *Prev Vet Med.* 2009 Jul 1;90(1-2):10-6. doi: 10.1016/j.prevetmed.2009.03.004. Epub 2009 Apr 10.
- Morley, R. S 1993: Quantitative risk assessment of the risks associated with the importation of pigs to abattoirs. *Rev. sci. tech. off. Int. Epiz.*, 12 (4): pp.1235 to 1563.
 - Pejsak, Z.K and Trusczyński, M. (2006) Aujeszky's disease (Pseudorabies). In: *Diseases of Swine*, Ninth Edition, Straw B.E., Zimmerman J.J., D'Allaire S. and Taylor D.J., eds, Blackwell Science, Oxford, UK, pp.419 to 433.
 - ProMED (2023) Pseudorabies (Aujeszky's disease) - Czech Republic: dog ([Promed Post - ProMED-mail \(promedmail.org\)](#))
 - ProMED (2022a) Pseudorabies (Aujeszky's disease) - France: (LP) dog ([Promed Post - ProMED-mail \(promedmail.org\)](#))
 - ProMED (2022b) Pseudorabies (Aujeszky's disease) - Germany: (BW) wild boar ([Promed Post - ProMED-mail \(promedmail.org\)](#))
 - State Veterinary Administration(SVS) (2023). Several cases of Aujeszky's disease in hunting dogs at the end of the year (Several cases of Aujeszky's disease in hunting dogs at the end of the year – State Veterinary Administration (svscr.cz))
 - Wittmann, G. (1986) Aujeszky's disease *Rev. sci. tech. Off. int. Epiz.*, 1986, 5 (4), pp.959 to 977.