



Animal & Plant Health Agency

Key Facts about Seneca Valley Virus

Seneca Valley virus (SVV), also known as Senecavirus A is a picornavirus of pigs which was initially isolated from pigs in the United States (US) in 1988 and was later identified as a cell culture contaminant in the US.

SVV was found to have been circulating silently in US pigs since its first detection with vesicular lesions only occurring sporadically prior to 2015. In 2014 and 15, outbreaks of vesicular disease due to SVV emerged in pig herds across Brazil and, from July 2015, outbreaks occurred in pigs in the US also.

Vesicular disease in pigs due to SVV has been described in the US, Canada, Brazil, Colombia, China, Thailand, Vietnam, Chile and the United Kingdom. The first detection of vesicular disease due to SVV in the UK was in 2022 ([Great Britain pig quarter 3 2022 report: disease surveillance and emerging threat](#)). There are no vaccines available for SVV.

Human disease has not been associated with SVV infection, and naturally occurring infection of humans is not thought to occur.

SVV is not a notifiable disease and is not listed by World Organisation for Animal Health (WOAH formerly the OIE). It is not known to readily affect other livestock species. Unlike foot-and-mouth-disease, vesicular disease outbreaks due to SVV have only been described in pigs, and not in other livestock.

Current information suggests that there is limited production loss in affected herds; disease is relatively mild and of short duration. Piglet mortality may occur but, in other countries, has been transient.

The main concern around SVV is its clinical resemblance to vesicular notifiable diseases such as foot-and-mouth disease (FMD), swine vesicular disease and vesicular stomatitis. Lameness and vesicular (blister) lesions which rapidly rupture are seen, similar to those in foot-and-mouth disease. The lameness may affect one or all four feet. Foot lesions are more obvious than those on the snout or lips and involve the coronary bands of the hooves and accessory digits, and/or interdigital spaces. Ruptured lesions can form erosions and

deep ulcerations that heal within about two weeks. Deep nail bed haemorrhages visible on the hooves may also be present.

A key message to pig keepers and vets is that they must report any clinical signs of vesicular disease promptly for official investigation which enables notifiable vesicular diseases to be ruled out by testing.

It remains unclear how the virus enters the pig population in new countries and naïve herds. Therefore, stringent application of well-established biosecurity practices is recommended and will also help reduce the risk of introduction of other exotic diseases, such as African swine fever, and of endemic diseases, such as porcine reproductive and respiratory syndrome.

Facts are limited on SVV epidemiology and transmission, but direct routes (infected pig to another pig) and indirect routes (through secretions or faeces of infected pigs, and anything contaminated with them) are likely. The role that contaminated feed ingredients, infected semen, meat from infected pigs, or other methods of transmission play in the source and spread of disease is poorly documented. Therefore, although some transmission routes have not yet been proven for SVV, a range of potential transmission pathways should be considered likely to exist. Infection of mice and houseflies with SVV has been reported in the literature. SVV has also been detected in environmental samples suggesting that persistence in the environment could occur.

The efficacy of most disinfectants against SVV is not known. Disinfectants at General Orders rate are recommended. FAM30 at the General Orders rate is likely to be suitable. There is further information in this US factsheet: <https://www.cfsph.iastate.edu/pdf/shic-factsheet-senecavirus-a>

A diagnostic PCR test is available at the UK National Reference Laboratory at The Pirbright Institute and a serological test for antibodies has been established.

Advice to pig farmers

Pig keepers should inspect their pigs at least once a day and be vigilant for lameness and foot or snout/mouth lesions. Pigs should be observed moving to be able to detect lameness as they may appear otherwise healthy. Inspection of lame pigs may require the feet to be washed to inspect the coronary band properly especially in wet conditions or where wallows are present. Snout lesions are more transient and may be harder to see in an outdoor setting.

Where several pigs develop lameness over a short period of time with coronary band foot lesions, these should be reported to APHA as suspect FMD/vesicular disease even if the vesicular stage is not seen, and no snout or mouth lesions are visible.

It is vital that any vesicular disease in pigs is reported immediately to APHA for official investigation to rule out notifiable disease.

How to report: <https://www.gov.uk/guidance/foot-and-mouth-disease>

Pig keepers are advised to:

- Urgently review their biosecurity measures and address any weaknesses, minimising movements of vehicles, people or equipment onto pig units
- Control rodents, flies and as far as possible, wild birds:
<https://ahdb.org.uk/knowledge-library/biosecurity-on-pig-farms>
- Isolate incoming pigs away from the resident herd for at least one month
- Source their pig food or ingredients from reputable pig feed companies and never feed kitchen or catering waste or meat to pigs
- Follow the National Pig Association import protocol if importing live pigs:
<http://www.npa-uk.org.uk/hres/NPA%20imports%20protocol%20Feb%202019>

This advice applies to all pig keepers, no matter how many pigs they own. Pig keepers and the public are also reminded that it is illegal to feed pigs meat or meat products, and kitchen or catering waste. Doing so endangers the health of the pigs and risks introducing exotic diseases, such as foot-and-mouth disease or African swine fever, into the country.

More information about SVV is available on these links:

- Senecavirus A: Frequently asked questions
<https://www.aasv.org/shap/issues/v30n3/v30n3p149.html>
- Comprehensive review on immunopathogenesis, diagnostic and epidemiology of Senecavirus A
<https://www.sciencedirect.com/science/article/pii/S0168170219306902>



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