

Department for Environment, Food and Rural Affairs

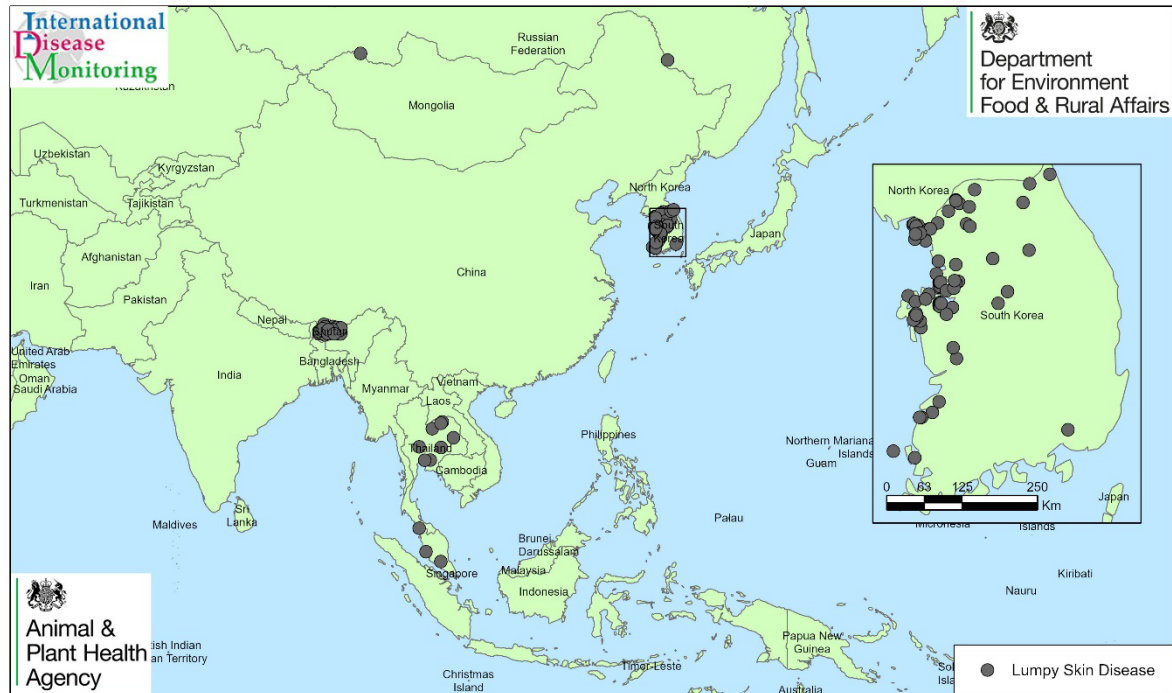
Preliminary Outbreak Assessment

Lumpy Skin Disease in East Asia

13 November 2023

Disease report

On 20 October 2023 Lumpy skin disease (LSD) was identified for the first time in South Korea near the city of Seosan-si in the province of South Chungcheong (WOAH 2023). This outbreak occurred on a farm containing 41 cattle. The Animal and Plant Quarantine Agency (APQA) confirmed the presence of LSD after conducting reverse transcription-polymerase chain reaction (RT-PCR) in 4 cows showing clinical signs. As of 13 November, there have been 88 outbreaks in South Korea, according to WAHIS ([WAHIS \(woah.org\)](https://www.woah.org)). These were in several provinces including Chungcheongnam-do, Jeollabuk-do, Gangwon-do, Chungcheongbuk-do, Incheon, Jeollanam-do, Gyeonggi-do and Gyeongsangnam-do. At present, it is not known how the virus was introduced into South Korea. However, the Ministry of Agriculture and Food noted that they have been concerned about the incursion of LSD into South Korea due to outbreaks since 2019 in neighbouring countries such as Thailand, China, Mongolia and Indonesia. In preparedness of this, the ministry stockpiled vaccines and prepared procedures in readiness for disease.



Map Prepared by IDM
 Date: 15/11/2023
 Absolute Scale: 1:50,000,000

Lumpy Skin Disease
 South East Asia, January - November 2023
 (WOAH Data Only)

0 940 1,880 2,820 Km

Figure 1: Map of South East Asia showing outbreaks of Lumpy Skin Disease in 2023 (WOAH data only).

Situation assessment

LSD is a Capripoxvirus similar to Sheeppox virus and Goatpox virus. It is a notifiable disease which primarily affects cattle and water buffalo (Eom, Lee and Yoo, 2023, Pirbright 2023). The virus is mainly transmitted by insect vectors and mechanical transmission has been demonstrated under experimental conditions by mosquitoes (*Aedes aegypti*) and biting flies (*Stomoxys calcitrans* and *Haematopota* spp.) (WOAH, 2022). Additionally, LSD can be transmitted via direct contact and contact with infectious bodily fluids, such as semen, with one report of placental transmission (WOAH, 2022). It is considered to be highly likely that other mosquitoes, biting flies, *Culicoides* and ticks may play a role in transmission under field conditions (WOAH, 2022). LSD is generally considered a significant production disease in cattle, and although the mortality rate is relatively low (typically 1-5%), infection damages the hides and affects beef and milk production (WOAH, 2022).

Since 2012, LSD has spread through the Middle East, part of south-east Europe, the Balkans, Caucasus, Russia and Kazakhstan (WOAH, 2022). By 2019, LSD was also reported in southeast Asia, including Taiwan, China and Thailand (Eom, Lee and Yoo, 2023). There has not been a case of LSD reported within the UK.

South Korea

All of the outbreaks in South Korea were in domestic cattle with premises housing between four and 575 animals. The first outbreak was reported in the province of Chungcheongnam-do, in the Southwest of the country and has since spread to eight out of nine provinces. To control the spread of LSD, the South Korean authorities have declared the completion of a mass vaccination campaign where, as of 10 November, all known cattle in South Korea have been vaccinated against LSD ([Press Release - \(mafra.go.kr\)](#)). Local governments are actively promoting disease preventive measures including disinfection and vector control, as lumpy skin disease is transmitted by blood-feeding insects. This has been encouraged for at least three weeks after vaccination of the cattle to allow for the time taken to produce antibodies following vaccination ([Promed](#) 2023).

Thailand

LSD outbreaks started in 2021 in Thailand. From 30 January to 9 November 2023, Thailand have reported 565 outbreaks of LSD, according to WAHIS. WAHIS ([woah.org](#)) These have been in both domestic cattle and wild bovine animals. It is unknown if a vaccine has been approved by the Department of Livestock Development due to the continued high number of outbreaks. The last media reports stated that Thailand's Livestock Development Department is expected to produce its first lot of inactivated vaccine against Lumpy Skin Disease (LSD) in cattle by May 2022, however, there have been no further updates. It was noted that this vaccine was created to not rely so much on importing vaccines from other countries [Thailand's lumpy skin disease vaccine available in May](#). Farmers have been encouraged to follow preventative measures such as using chemical insecticides, regularly removing manure from the farm, elimination of mosquito breeding sites, and the use of nets to protect the animals [LSD an emerging disease in beef cattle](#)

Indonesia

LSD has been detected in Indonesia since February 2022 and has affected 16 provinces. In 2023, Indonesia reported 15 outbreaks of LSD to WAHIS. [WAHIS \(woah.org\)](#). The situation has now been classified as 'stable' by WOA. All of the reports were in domestic cattle. Indonesia's vaccination campaign started in February 2022 along with vector control and biosecurity recommendations to farmers. These include quarantine measures, medication for infected cattle to aid with symptoms, and the use of insecticides [LSD in cattle: how to treat it](#). In July 2023, Indonesia reported that 13 cattle imported from Australia tested positive for the disease and therefore stopped imports from Australia. Trade resumed in September, with Australia remaining disease free.

Bhutan

On 02 January 2023, Bhutan made an immediate notification of LSD to WAHIS. This involved 20 new outbreaks in domestic cattle, which has not been seen in the country since 2021. The reports were spread across the country and the source of infection is unknown. According to media reports, Bhutan began vaccinating cattle

for LSD in August. The city of Thimphu has been the worst affected by LSD and was selected by the government to vaccinate their animals first. Once more vaccines have been imported, the vaccine will be rolled out across the country. [Districts across the country receive Lumpy Skin Disease vaccine - BBSCL](#)

Cambodia

Cambodia have reported 59 outbreaks of LSD to WAHIS from November 2021 to August 2022. The situation has been classified as 'stable' by WOA in 2023. The reports were in domestic cattle and domestic buffaloes.

Conclusions

The risk of introduction of LSD into the UK from South Korea at present is negligible due to the distance between the UK and affected areas and the lack of trade in commodities which might act as potential entry pathways (live cattle, meat and milk products, germplasm, hides/skins and exotic animals). While control efforts have slowed disease spread in Eastern Europe, such as vaccination of all cattle since 2016 in Bulgaria and 57% of cattle in Greece, LSD is still an emerging disease in Asia, which can cause rapid spread and high disease burden in naïve populations. This highlights the importance of maintaining awareness of new introductions, updating contingency plans and considering vaccination as part of control programmes.

The risk of introduction of LSD into the UK from any source remains **Negligible**. We will continue to monitor the situation.

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