

Updated Outbreak Assessment #2

Lumpy Skin Disease in North Africa

8 July 2024

Disease Report

Our last report on lumpy skin disease (LSD) in North Africa in July [2023](#) detailed the detection of LSD in Libya for the first time. In recent weeks, there have been reports of the emergence of LSD in Algeria for the first time (FAO), which has been rapidly spreading in the north of the country (ProMed). LSD is considered endemic in most African countries, including Egypt where it was first reported in 1988 (Bianchini *et al.*, 2023). However, prior to 2023, LSD had not been reported in other North African countries, and Morocco and Tunisia have never reported the disease. LSD in Algeria was first reported by National Authorities to the United Nations Food and Agriculture Organization (FAO) disease surveillance system, EMPRES, on 24 June 2024. Over a few days, three outbreaks had been reported in five provinces in the north-east of the country: Algiers, El Oued, Ghardaia, Setif and Mila (Figure 1). There have been further media reports of LSD outbreaks in addition to those reported to the FAO. At the end of June 2024, 68 outbreaks of LSD were reported by media in 15 areas of the region in Tizi Ouzou, east of Algiers (Hamid, 2024). To date, no cases have yet been notified to WOAAH regarding the recent outbreaks.



Figure 1: Map of Northern Africa - Reports of Lumpy Skin Disease, July 2023 - July 2024 (Empres, FAO)

Situation Assessment

LSD is a pox virus mainly affecting cattle and water buffalo, which is notifiable to the WOA (Eom, Lee and Yoo, 2023). The virus is mainly transmitted by mechanical transmission by biting insect vectors. Mechanical transmission has been demonstrated under experimental conditions for *Aedes aegypti* mosquitoes and biting flies, such as *Stomoxys calcitrans* and *Haematopota* species (WOAH, 2022). It is also highly likely that several other mosquitoes (such as *Culex mirificens*), biting flies (such as *Biomyia fasciata*), *Culicoides*, and ticks (*Rhipicephalus appendiculatus* and *Amblyomma hebraeum*) may play a role in transmission under field conditions (WOAH, 2022). Other transmission routes include direct contact and indirect contact with infectious bodily fluids, such as semen, with one report of placental transmission (WOAH, 2022). The virus is able to survive over 30 days in skin nodules and scabs, and transmission in semen can occur for up to 42 days after infection. (WOAH, 2002).

Lumpy skin disease virus is antigenically similar to sheep-pox and goat-pox viruses which cause sheep and goat pox (SPGP). LSD is characterised by fever, enlarged lymph nodes, oedema of the skin and nodules on the skin, mucous and membranes and internal organs and can also result in death. It is not a zoonotic disease but can cause significant impact to agricultural industries due to the high morbidity, up to 45%, causing loss in beef and milk production and damage to hides (WOAH, 2002). The mortality rate is relatively low (typically 1-5%) but may reach up to 40% in naïve and young animals (Coetzer, 2004), infection damages the hides and affects beef and milk production (WOAH, 2022) and affects export trade.

LSD is endemic within most African countries, with Morocco and Tunisia now being the only countries where cases have not been reported (Eom, Lee and Yoo, 2023). Since 2012, LSD has spread through the Middle East, part of south-east Europe, the Balkans, Caucasus, Russia and Kazakhstan (WOAH, 2022). Since 2019, it has also been 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 United Kingdom (England, Scotland, Wales and Northern Ireland).

Lumpy Skin Disease is difficult to eradicate by stamping out of livestock alone, and often requires vaccination to eradicate the disease from the national herd. In many countries in Africa the true prevalence of LSD is unknown or yet to be studied (Abebaw, 2024).

Algeria

Local media reports of a disease killing cows were first noted on 18 June 2024, in the region of Blida due to the death of at least 40 cows (Rahim, 2024). There have been further media reports of LSD outbreaks in addition to the three outbreaks reported to the FAO. According to ProMed, livestock markets have been closed due to nearby LSD outbreaks in the provinces of Bouira, Skikda, Setif, Jijel, Ghardaia,

Tizi Ouzou, Tebessa, Souk Ahras, Blida, El Oued, Alger and Mila. The affected provinces are in the north-east of the country, with some coastal provinces and some which border Tunisia.

It is over 500km between the cluster of cases near Tripoli, Libya and the nearest reported case in Algeria in El Oud. It is currently unclear what the source of infection was or the reason for such rapid epidemiological spread in Algeria. However, the European Commission for the Control of Foot-and-Mouth Disease (EuFMD) have suggested that it is most probably associated with animal movement and delayed detection and recognition of the disease (Comms EuFMD). The EuFMD has also alerted member states regarding this major change in epidemiological situation and is providing assistance to affected countries.

Libya

Since our last report in July 2023, according to WOA, 49 outbreaks of LSD have been reported in Libya with start dates between April 2023 and April 2024. The majority of reports were reported in batches in July 2023, March 2024 and April 2024, and there have been no reports since April 2024. Affected areas are focused around Tripoli on the north-west coast, and around Bayda in the north-east. Regions affected by LSD, according to WOA, include Al Jifarah, Az Zawiyah, Al Jabal al Akhdar, Misratah, Al Marqab and Tripoli.

Media reports have stated that the ability to control the outbreak have been limited by factors such as climate change and flooding and political instability. It has been reported that Storm Daniel in September 2023 caused the death of 30% of livestock within the eastern region of the country (Al Nassim, March 2024) resulting in a decreased supply and increased demand causing meat prices to rise and people to attend markets more frequently for meat, providing further opportunities for disease spread. The aftermath of the storm, and flooding due to climate change, can also provide suitable environments for increased vector populations. In addition, the presence of a Foot and Mouth Disease virus outbreak can make control of such epizootics challenging. It is reported that vaccines have now been deployed to try to control the LSD epizootic in affected areas, but there are concerns that the late deployment of vaccines will not be able to control LSD spread (S. Alharathy, March 2024).

Conclusion

The spread of LSD within the North African region highlights the transmissibility of this disease and the vulnerability of livestock in naïve and unvaccinated populations. The stability of the virus leading to survival on hides and in the environment also poses a potential risk for the virus to be transported to new destinations and provides a challenge in eliminating the virus.

The proximity of Algeria and other north-west African countries to the Iberian Peninsula raises concerns around the potential for infected vectors to spread into southern Europe.

Outbreaks of LSD occurred in Greece and Bulgaria in 2015 and 2016, respectively. Vaccination campaigns in both countries have been ongoing since then, along with passive and active surveillance, and the last outbreaks were reported in 2016 in Bulgaria and 2017 in Greece. [For more information on the LSD situation in Bulgaria, see the April 2023 PAFF presentation.](#) In 2024, a serological and virological surveillance programme has been implemented in the entire Greek territory to demonstrate the absence of LSD, during an 8-month recovery period of no vaccination. [For more information on the LSD situation in Greece, see the April 2023 PAFF presentation.](#)

The risk of introduction of LSD from Libya and Algeria into the United Kingdom (England, Wales, Scotland and Northern Ireland) at present is negligible, due to the distance from affected areas and the lack of trade in commodities which might act as potential entry pathways (live cattle, meat and milk products, germplasm, hides and skins and exotic animals). The United Kingdom has not received any consignments from Algeria or Libya in the last year of cattle or their products including hides and skins. In addition, personal imports are not allowed for third countries outside the EU.

However, LSD is still considered an emerging infectious disease due the spread of the disease globally, including in Asia. In recent decades, changes to the disease have included genetic mutations as recently noted in [Indian](#) strains of the virus causing higher mortality and morbidity in some areas.

This highlights the importance of maintaining awareness of new introductions, updating contingency plans and considering vaccination as part of control programmes.

We will continue to monitor the situation.

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