

Preliminary Outbreak Assessment

Foot and Mouth Disease in the Middle East and North Africa

8 February 2023

Disease report

The World Organisation for Animal Health (WOAH) has reported Foot and Mouth Disease (FMD), serotype SAT-2 in Iraq (WOAH, 2023). The first outbreaks in Iraq occurred in the north of the country on 3 January 2023. Further outbreaks were reported throughout the month in central Iraq and later, in the south of the country near to the borders with Kuwait and Iran.

On 2 February, the World Reference Laboratory for FMD (WRLFMD, The Pirbright Institute) analysed sequence data provided by the Şap institute in Turkey to confirm that these outbreaks have been caused by a new viral topotype (called SAT 2/XIV) which are closely related to SAT-2 viruses collected from Ethiopia during 2022 (Promed 2023a). The



Figure 1: Map showing outbreaks of FMD in the Middle East and North Africa between March 2022 and February 2023

Jordanian Ministry for Agriculture has also confirmed emergence of FMD SAT-2 in Jordan for the first time, and sequences provided to the WRLFMD from the

Jordanian University of Science and Technology (JUST) share close genetic relationship to the SAT2/XIV sequences from Iraq, although these are yet to be reported by WOA (ProMed, 2023a). These are the first reports of the SAT-2 serotype in these countries, and the emergence of a new viral topotype in the Middle East raises concerns about the potential for onward spread to other countries in the region.

Situation assessment

These are the first reports of FMD SAT-2 in Iraq and Jordan, and the first events in the Middle East caused by SAT 2/XIV). Recent vaccination campaigns in the region have been conducted to control the endemic serotype O, but these cannot be expected to provide coverage for serotype SAT-2.

The global distribution of FMD can be divided into seven endemic Pools (Figure 2) which represent regions where specific FMD viral lineages are maintained (FAO, 2021).

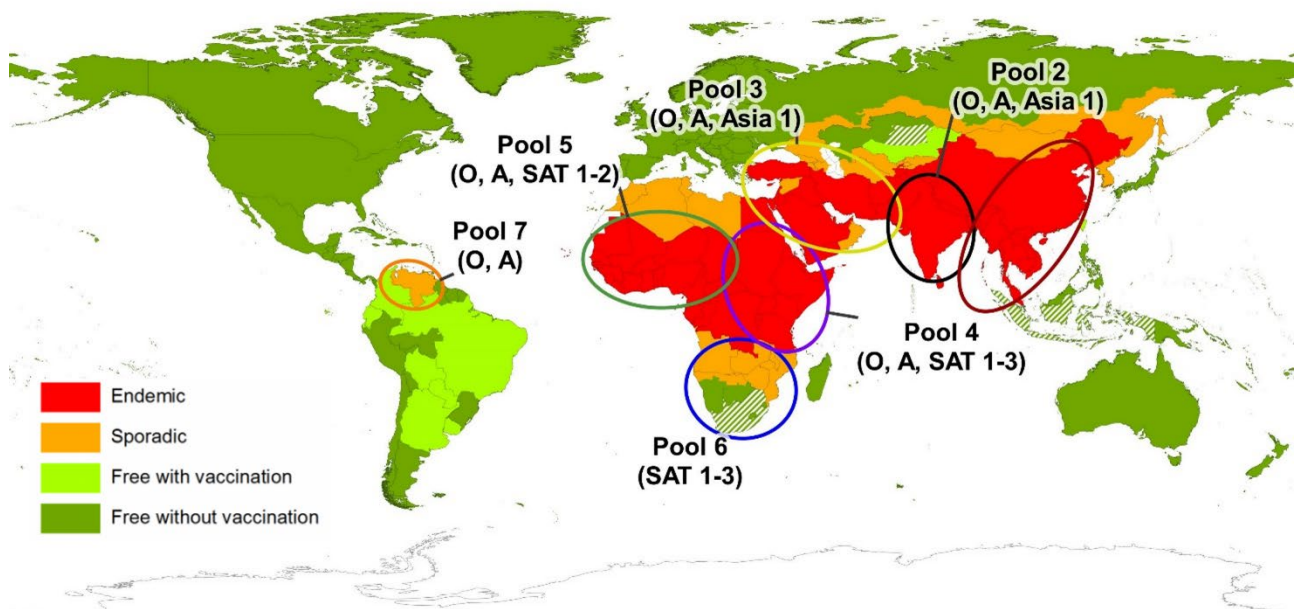


Figure 1: Map showing WOA FMD status and historic endemic Pools of foot-and-mouth disease where FMD virus serotypes circulate independently. Some countries may have WOA-free status with or without vaccination, for example Russia. Striped colouring indicates areas that currently have FMD-free status suspended.

You can find more information about [the WOA status](#) on the WOA website.

The Middle East comprises countries in endemic Pool 3 such as Saudi Arabia, Israel, Iran and Iraq where serotypes O, A, and Asia 1 are considered endemic. Serotype SAT-2 was most recently reported in Egypt between 2014 and 2018 (Egypt WRLFMD, 2023) and previous SAT 2 outbreaks in the Middle East have affected animals in Kuwait (in 2000), Oman (in 2015), Palestine (in 2009 and 2013) and Saudi Arabia (in 2000) (Western and

Central Asia WRLFMD, 2023). Occurrences of FMD in other endemic countries can be found on the WOAHA website and the [FAO World Reference Laboratory](#) for the FMD website.

Iraq

The first outbreaks of FMD serotype SAT-2 occurred in domestic buffaloes, cattle and sheep in northern Iraq on 3 January 2023. One outbreak was in the Diyala Province in central Iraq, the second was in the northern Ninawa (Nineveh) Governorate.

Further outbreaks occurred on 30 and 31 January in Sulaymaniyah in the Kurdistan region, and again in the Diyala Province. On 1 February, 5 further outbreaks occurred in Ninawa, Basrah, Najaf, Dihok and Baghdad. There have been no reports of FMD serotype O in Iraq during this time period.

Jordan

Since March 2022, there were 7 outbreaks of FMD serotype O in Jordan in domestic cattle, sheep and goats reported to WOAHA. Of these, 4 occurred in November and December 2022, and 3 were in November and December 2022. The outbreaks occurred in the Al-Dulayl, Al-Hallabat and Al-Khalidiya areas, which are all in the north of the country.

According to a media report, in response to the situation in Jordan, official authorities have closed livestock markets in all regions of the country for 14 days, in addition to forming a committee to facilitate the setup of movement restrictions. The importing of coarse fodder from Iraq has also been temporarily suspended to prevent further spread of infection. The media report mentioned a statement from the Jordanian Veterinarians Association which criticised the Ministry of Agriculture for potential negligence of quarantine procedures and allowing entry of cows and sheep into the country without testing (Alarabiya.net, 2023).

The Jordanian Ministry of Agriculture has also facilitated the import of vaccine against FMD, however the efficacy of the vaccine for serotype SAT-2 is yet to be reported (ProMed, 2023b).

Israel

Between March 2022 and 8 February 2023, 93 outbreaks of FMD serotype O were reported in Israel in domestic cattle, goats, sheep, and pigs. In response to the emerging situation in Jordan, the Israeli Government has issued guidance on preventive measures for FMD SAT-2, including maintenance of stringent biosecurity. They are also raising awareness amongst all personnel, including drivers and users of vehicles that enter premises and facilities, of the importance of maintaining this stringent biosecurity. The guidance advises that although the veterinary services in Israel hold an emergency supply of frozen FMD SAT-2 vaccine, the quantity of this is very limited, thus highlighting the need for vigilance and biosecurity measures (Gov.il, 2023).

Conclusion

The emergence of a new foot and mouth disease virus serotype in an area where there is no vaccination coverage is of great concern. The events highlight how this virus can make significant and unexpected jumps, often through trade and movements of people, animals and animal products, and therefore there is a need for continued vigilance. Across the region, trade and movements of animals usually increase during Ramadan which will take place in late March in 2023. If effective vaccination or movement restrictions are not implemented, this may exacerbate spread of FMD serotype SAT-2. Neither Iraq nor Jordan are approved for ruminant meat or live animal trade to the UK.

We therefore consider there to be no change in the risk of incursion of FMD to the UK and consider an overall low risk of introduction of disease from any affected region in the world, and that the situation in the Middle East does not change this risk level at present. It does however merit enhanced support and vigilance, particularly as the recent earthquake and subsequent crisis in Turkey and Syria may affect disease control and surveillance capabilities in the affected area.

The risk from illegal imports is difficult to quantify but travellers from the Middle East and other third country areas who bring meat or dairy products can face prosecution and a large fine.

We will continue to monitor the situation and remind livestock keepers of the importance of maintaining strict on-farm biosecurity, compliance with the swill feeding ban, and the reporting of all suspicions of notifiable disease promptly.

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