Foot and Mouth Disease outbreak report

2021-2023

agriculture, land reform & rural development

Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

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1. Introduction and summary

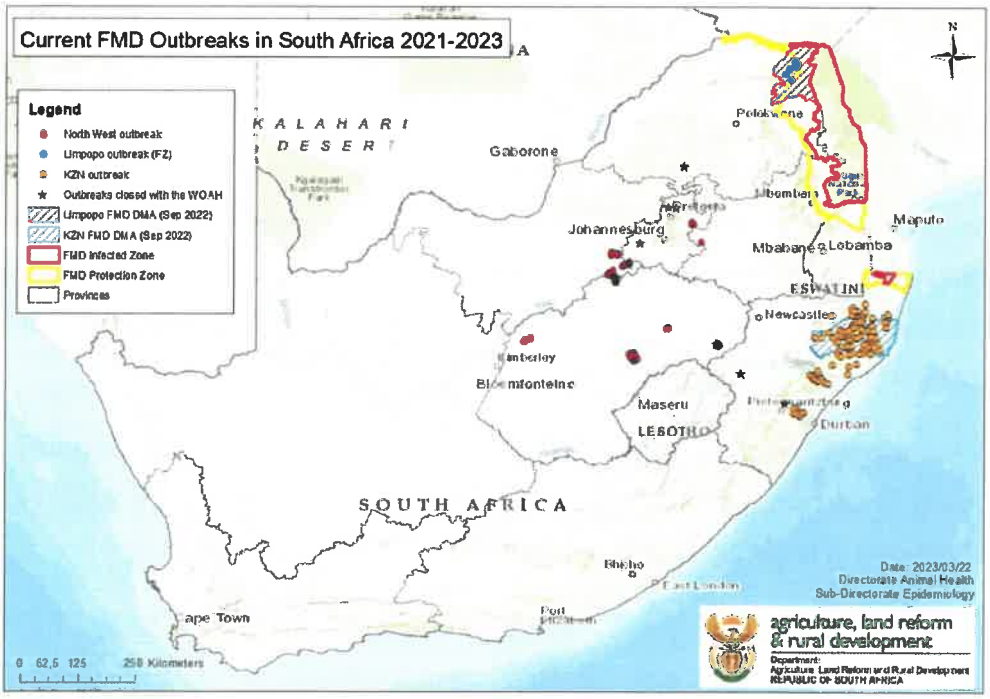
South Africa has three Foot and Mouth Disease (FMD) outbreak events in the previously FMD free zone without vaccination. These three outbreak events comprise 183 open outbreaks[1] reported to the World Organisation for Animal Health (WOAH founded as OIE).

The first outbreak event started in May 2021 and is mainly affecting the KwaZulu-Natal (KZN) province, with limited spread to the Free State Province. The second outbreak event started in March 2022 in the previous FMD free zone in Limpopo Province, with limited spread to Gauteng Province. The third outbreak event also started in March 2022 in the North West Province (linked to the second outbreak event in Limpopo Province) with spread to Mpumalanga, Gauteng and Free State Provinces. South Africa has so far resolved 12 infected premises in the three FMD outbreak events and closed them with the WOAH.

There are two viruses responsible for the current three outbreak events:

- SAT 2 serotype in outbreak event 1
- SAT 3 serotype in outbreak event 2 and outbreak event 3

Map 1: Reported outbreaks in the previous FMD free zone



[1]'Outbreak' means the occurrence of one or more cases in an epidemiological unit. An 'event' means a single outbreak or a group of epidemiologically related outbreaks of a given disease.

Table 1: Summary of active outbreaks per event:

Outbreak Event	Number of open outbreaks	Number of resolved outbreaks	Total number of outbreaks	Last reported outbreak
KwaZulu-Natal – Free State	122	3	125	31 January 2023
Limpopo - Gauteng (previous free zone)	7	3	10	13 June 2022
North West – Gauteng – Mpumalanga – Free State	54	6	60	31 January 2023
Total	**183**	**12**	**195**	

2. Details of open outbreak events (as reported to the WOAH)

2.1 Outbreak event 1: KwaZulu-Natal – Free State Provinces

The index case of this outbreak event was detected in May 2021 in a communal grazing area in the Mtubatuba Local Municipality of the KZN Province. The virus responsible for the outbreak is a SAT 2 serotype and is closely related to a SAT 2 virus responsible for an outbreak that occurred in the Protection Zone in northern Limpopo Province in September 2019. Initially the positive locations were limited to two distinct clusters of dip tanks in communal grazing land, as well as two commercial feedlots. The two feedlot outbreaks were resolved successfully and closed with the WOAH. In June 2021, a Disease Management Area (DMA) was declared in order to provide legislative support for controlling the disease in a wider area, rather than on affected premises only.

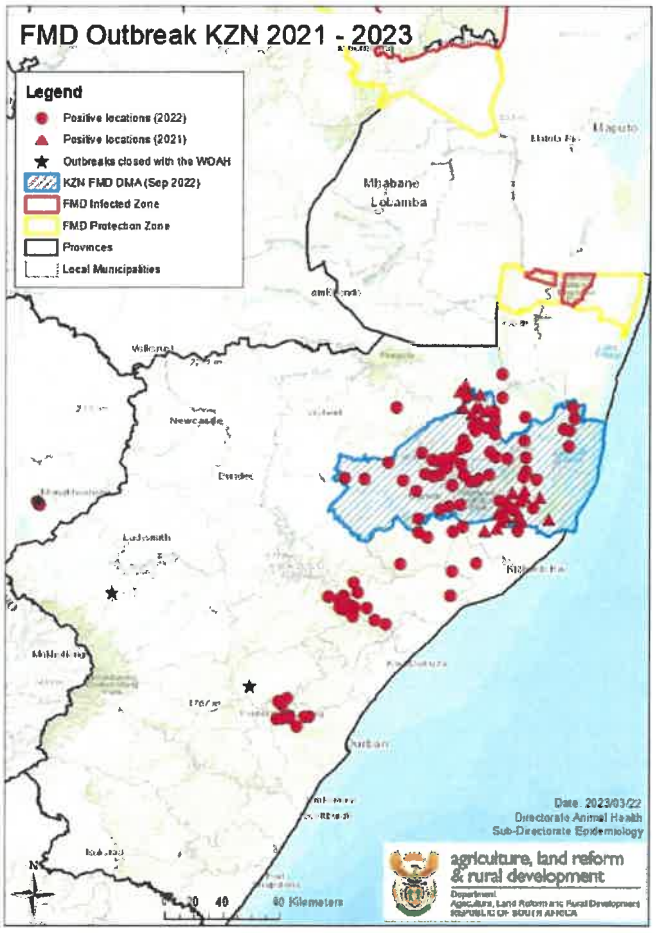
The outbreak event spread during January 2022 to a larger area of predominantly communal farming areas in the north of KZN Province. A Disease Management Area was extended in May 2022 to cover a larger affected area.

In August 2022, the SAT 2 virus was identified in a feedlot in the Free State Province. The adjacent communal area was also affected. This outbreak, in the communal area, was resolved by absorbing the animals into the affected feedlot and closed with the WOAH.

Varied clinical signs were reported with cattle in some serologically positive locations showing no visible signs of infection, while others showed classical clinical signs of FMD.

In June 2022, FMD positive buffalo were detected in a wildlife reserve in KZN and towards the end of 2022, buffalo in another game reserve in the area had also become infected. Since it may not be possible to destroy all the infected buffalo populations, the carrier status of buffalo for FMD will mean that the affected area will remain under FMD control.

Map 2: Outbreak event in KwaZulu-Natal – Free State Provinces



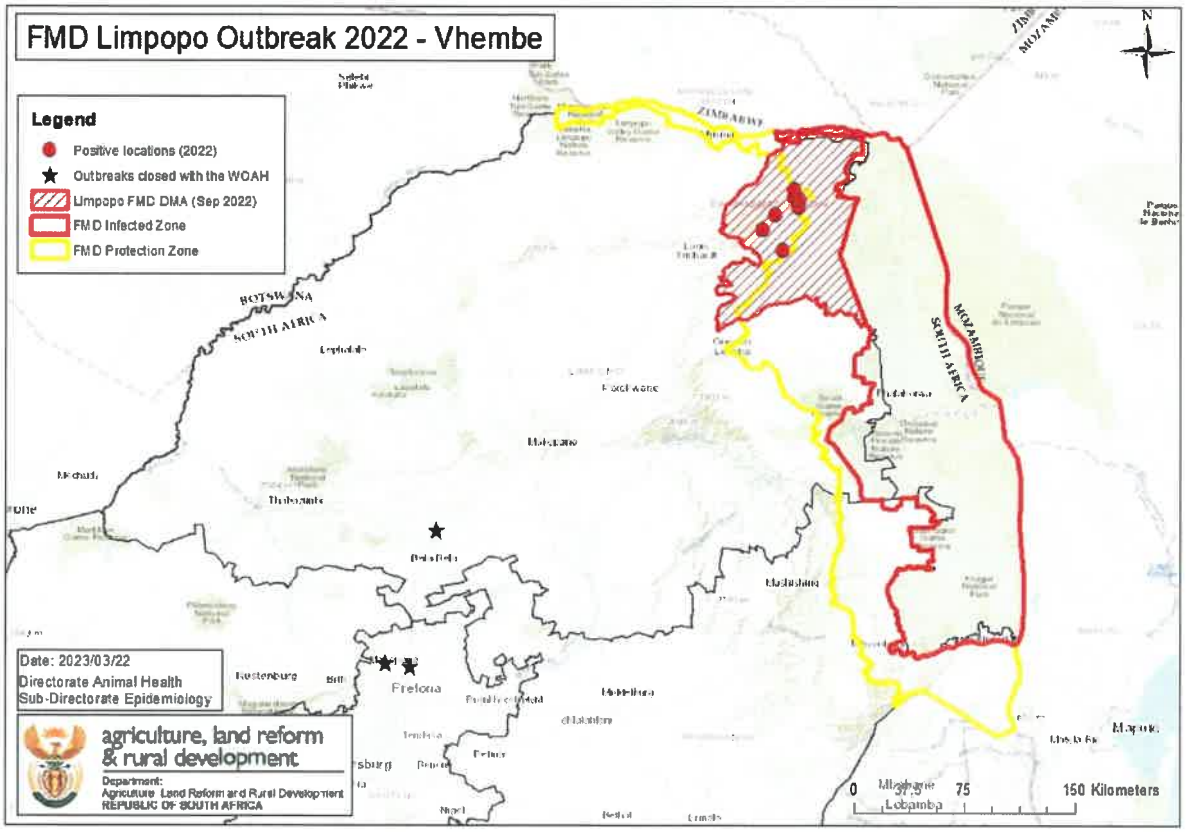
2.2 Outbreak event 2: Limpopo Province

The second FMD outbreak event started in March 2022 in the previous free zone in Limpopo Province. The outbreak was detected in seven locations (inspection points) in communal grazing land. The previously declared Disease Management Area was extended in October

2022 to cover this area in order to provide legislative support for controlling the disease in a wider area.

No new outbreaks have been reported since 13 June 2022 and this outbreak event remains stable. Clinical and serological surveillance is underway to confirm the absence of circulating virus, following which the outbreak event will be closed with the WOAH.In April 2022, serologically positive FMD vaccinated animals were found at two premises in Gauteng Province and one in Limpopo Province. Investigations identified that these animals had been illegally moved from the Protection Zone with vaccination in Limpopo Province. The animals were confiscated, and safely moved to a designated abattoir in Limpopo Province for controlled slaughter. These three outbreaks in this event were thus closed with WOAH in May and July 2022.

Map 3: Outbreak event in Limpopo Province



2.3 Outbreak event 3: North West - Free State – Gauteng - Mpumalanga Provinces

The third outbreak event was diagnosed in March 2022 on a stud farm in the North West Province. The neighbouring farm also tested positive for FMD. Following forward and backward tracing of epidemiologically linked locations, a number of surrounding locations were identified as positive, including a feedlot in the North West Province.

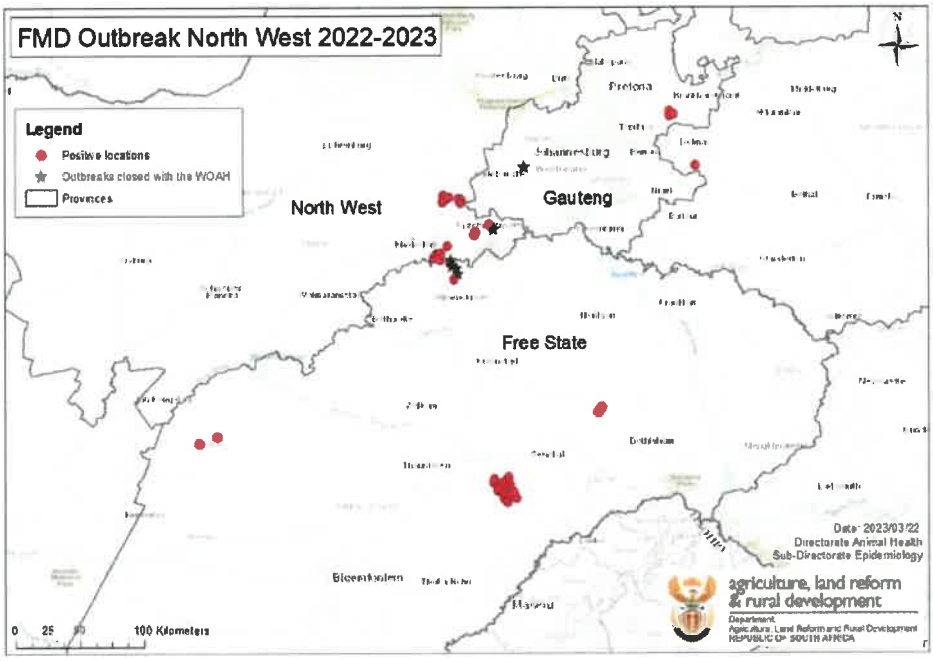
In April 2022, two FMD positive farms were detected in Gauteng Province and the Free State Province, due to being epidemiologically linked to an auction held in the North West Province. The affected cattle on these two farms were safely moved to a designated abattoir in Limpopo Province for controlled slaughter. These farms have undergone disinfection and the Gauteng province farm have been officially closed with WOAH, while the Free State Province location is in the process of being officially closed with WOAH.

In July 2022, a feedlot in the Free State reported cases of FMD. This feedlot is epidemiologically linked to the feedlot in the North West Province. A number of farms linked to this feedlot also reported outbreaks. A DMA was declared in the Free State Province to include all areas with positive locations or perceived to be at high risk of infection due to being epidemiologically linked.

In August 2022, the disease was detected in two feedlots, one in Gauteng Province and one in Mpumalanga Province. These outbreaks were linked to the Free State feedlot outbreak. The premises are well fenced and were placed under quarantine, pending controlled slaughter. The disease was subsequently detected on a number of commercial farms in North West, Free State and Gauteng Provinces in 2022 around these feedlots. One of the affected feedlot companies has multiple farms and all linked locations were placed under quarantine.

This third outbreak event involves four provinces (North West, Free State, Gauteng and Mpumalanga Provinces), with 60 outbreaks reported to the WOAH. Six outbreaks from this outbreak event have been officially closed with the WOAH. The outbreak event has stabilised, and is closely monitored through continuous surveillance. The last outbreak was reported to the WOAH on 31 January 2023. This case was identified in the North West Province, in an area already under quarantine due to the proximity to other positive premises. This outbreak was not due to recent spread, but was identified as part of continuous surveillance of adjacent premises.

Map 4: Outbreak event North West - Free State – Gauteng – Mpumalanga Provinces



3. Control Measures

3.1 Movement control

3.1.1 Quarantine of affected premises:

All affected farms and feedlots in North West, Free State, Gauteng and Mpumalanga Provinces were placed under quarantine with strict movement control. The locations involved are well fenced and movement of animals from these farms can be effectively prevented.

3.1.2 Declaration of Disease Management Areas:

Where the outbreaks occurred in communal grazing land in the KZN Province and Limpopo Provinces, the Minister of Agriculture, Land Reform and Rural Development declared Disease Management Areas (DMA) in the Government Gazette to cover the wider epidemiologically high-risk areas. A DMA was also declared in the Free State Province to include all areas with positive locations or perceived to be at high risk of infection due to being epidemiologically linked.

With the three DMAs, cattle, sheep and goats were not allowed to be moved into, out of and through the area, as well as from one property to another for any reason, except for direct slaughter at a registered abattoir. Such movements required veterinary health certification and a movement permit. Cattle, sheep and goats were allowed to be slaughtered for own consumption or for cultural or religious purposes, but only in the same epidemiological area where they were kept prior to slaughter. Visible Veterinary Patrols and roving and stationary road blocks were directed to cover high risk areas according to information on possible movement of animals.

The Free State DMA has since been lifted, while the KZN and Limpopo DMAs were made smaller based on risk assessment and surveillance of the areas involved. The movement of cattle, sheep and goats for purposes other than direct slaughter will be considered from FMD negative properties in these areas, if deemed low risk and under specific risk mitigation conditions.

3.1.3 National movement ban:

During 2022, the outbreaks within the country were spreading despite the control measures implemented. A national movement ban on cattle was instituted from 16 August 2022 until 8 September 2022. During this period, cattle could not be moved from one property to another for any reason, except for direct slaughter at a registered abattoir. No cattle could be moved between farms, locations or premises for purposes of sale, shows, breeding, backgrounding, ritual purposes, lobola, or any other purpose. No cattle could be moved into feedlots, and movement out of feedlots were only allowed directly to registered abattoirs. No cattle could be moved for purpose of import or export.

3.1.4 Movement control in unaffected locations:

Since the upliftment of the national movement ban, all livestock owners must provide a declaration of health and origin and must obtain the necessary Stock Theft documents for all cattle, sheep and goats to be moved from their property of origin onto other properties. Recipients of such animals must give written agreement to isolate new livestock for 28 days before introducing them into the main herds of the destination farm. The control measures for movement of cloven-hoofed animals and products out of the FMD protection zones have not changed.

3.2 Vaccination

Almost 600 000 animals have been vaccinated to date as part of emergency vaccination to control the FMD outbreaks. Vaccination was implemented in March 2022 to curtail the spread of the disease. Cattle are vaccinated on a risk-based approach, to ensure that the areas at highest risk are vaccinated first. Cattle on affected farms and feedlots were also vaccinated to reduce the viral load and lower the risk of spreading of disease while the controlled slaughter processes are ongoing.

Routine vaccination in the protection zone is also continuing. The vaccine being used is procured from the Botswana Vaccine Institute and encompasses all three SAT types. Only government officials are allowed to vaccinate animals as per the outbreak control plans.

3.3 Controlled slaughter

Where possible, affected positive feedlots and commercial farms are depopulated through controlled slaughter at designated abattoirs. The risk materials are processed or disposed of and only known safe products are released into the local market. No meat from affected animals may enter the export market. The infected properties remain under quarantine until 28 days after depopulation and disinfection. The outbreaks on the properties will be officially closed once the disinfection process has been concluded. More than 166 000 animals have been sent for controlled slaughter to date.

4. Confirmation of diagnosis

For all reported outbreaks, confirmation of disease was done using a combination of the following diagnostic tests at the ARC Onderstepoort Veterinary Research Transboundary Animal Diseases laboratory (OVR-TAD):

- Solid Phase Competition ELISA (SPCE)
- Non Structural Protein (NSP) ELISA
- Polymerase Chain Reaction (PCR)

5. Epidemiological investigation

The SAT 3 virus, responsible for outbreak events 2 and 3, originated in Limpopo Province. The source of introduction of this virus into Limpopo could not be determined, as the virus is not closely linked to any viruses recently identified in the infected or protection zones of South Africa.

This virus spread to North West Province, and subsequently to the Free State, Gauteng and Mpumalanga Provinces. The animals that caused the outbreak in North West Province moved from an area in Limpopo Province that was not under restriction at the time of the movement.

In KwaZulu Natal Province, epidemiological investigations to date have not revealed a source for the outbreak. However, the virus responsible for the outbreak is a SAT 2 serotype and is closely related to a SAT 2 virus responsible for an outbreak that occurred in the Protection Zone in northern Limpopo Province in 2019. It is therefore most likely that illegal movement of animals from the Protection Zone in Limpopo to KZN Province, may be the cause of the outbreak in KZN.

6. Surveillance

Clinical and serological surveillance around the affected areas continue, with intensified inspections around identified infected dip tanks in communal areas, or epidemiologically linked locations identified through forward and backward tracing. The clinical presentation of the disease in different locations have varied, from the classical clinical picture in some locations, to absence of clinical signs in others. Surveillance is therefore based on both clinical inspections, including mouthing, as well as serology.

All cattle presented at auctions are inspected before being admitted to the auction pens. If any animal presents with clinical signs, the auction is suspended while investigations are conducted, including laboratory confirmation ruling out FMD.

7. Awareness

Media releases alerted all farmers, livestock owners, members of industry and other stakeholders of the movement restrictions in place in the Disease Management Areas, as well

as the restrictions within all affected areas of the North West, Free State, Gauteng and Mpumalanga provinces.

In the whole country, farmers, livestock owners, members of industry and other stakeholders are encouraged not to move cloven hoofed animals without proper knowledge of the health status of the farm of origin. If there is any suspicion of FMD or linkage to an FMD affected property, members of the public must contact the State Veterinary Services immediately.

Director Animal Health

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