

# Foot and Mouth Disease: Molemole Outbreak Follow-up Report

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agriculture, land reform  
& rural development

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

Report compiled by:  
Directorate: Animal Health

## **1. Introduction and summary**

An outbreak of Foot and Mouth Disease (FMD) in the suspended FMD free zone was detected on 1 November 2019. In total, nineteen positive locations were identified, mainly through trace-back and trace-forward exercises. The last positive location was reported to the World Organization for Animal Health (OIE) on 26 February 2020 and more than ten months have passed since the clinical end point on affected properties.

## **2. Epidemiological investigation**

The outbreak was confirmed on 1 November 2019 by Polymerase Chain Reaction (PCR) at Transboundary Animal Disease – Onderstepoort Veterinary Research of the Agricultural Research Council. The virus responsible for the outbreak is a SAT 2 serotype and is closely related to the virus responsible for the outbreak that occurred in January 2019 in the FMD free zone without vaccination, as well as the outbreaks in the FMD protection zone in May and August 2018.

Properties with possible links to positive locations or to specific auctions were investigated to confirm their status with regards to FMD. These properties were placed under precautionary quarantine and samples were collected from a representative number of animals and subjected to serological tests, using the Solid Phase Competition ELISA. Animals on linked locations were clinically inspected and, if any lesions were found that may indicate FMD, tissue samples were also collected and tested by means of Polymerase Chain Reaction (PCR).

All affected properties could be linked directly or indirectly to four specific cattle auctions which took place in September and October 2019 at two auction venues. Backward and forward tracing from these auctions and the known positive locations were conducted, with more linked locations added as the investigation progressed. In total, about 200 properties were followed up with clinical inspection and serological testing.

A suspect was arrested for alleged illegal movement of animals from the FMD protection zone to the auctions and the court case is pending.

## **3. Control measures implemented**

### **3.1 Movement control:**

All premises confirmed positive for FMD were immediately placed under quarantine and no movement of cloven hoofed livestock or their products are allowed off these premises.

Biosecurity measures were also implemented on the affected premises to prevent the spread of the disease by means of fomites.

A large number of locations were identified with possible links to the infected premises. All linked premises were placed under precautionary quarantine until they had been followed up and tested. These included premises that received animals from specific auctions, or from known positive locations, and also premises that supplied animals to specific auctions. Direct neighbours of known positive premises and home villages of the workers on positive premises were also identified as linked premises.

During initial stages of the outbreak, all farmers in South Africa were encouraged to limit the movement of cloven hoofed animals until the extent of the outbreak had been fully determined. As an ongoing precaution, farmers are still advised to obtain a veterinary health declaration to confirm the absence of clinical signs of FMD on the premises of origin and in the animals to be moved. The Agricultural Produce Agents Council - Biosecurity Rules For Livestock Agents" was Gazetted on 13 Nov 2020. This strengthens the requirement for health declarations, record keeping and biosecurity at auctions.

In addition to the above and unrelated to the Molemole FMD outbreak, the routine legislated movement control measures for cloven hoofed animals and their products out of the FMD controlled zones in Limpopo, Mpumalanga and KwaZulu Natal Provinces continue to be applied on an ongoing basis. Furthermore, after an FMD outbreak had been detected in the FMD free zone in the Vhembe district of the Limpopo Province in January 2019, a Disease Management Area was declared and strict movement restrictions were implemented. On 22 June 2020, some 18 months after Clinical Endpoint of this outbreak, these measures were aligned with the movement control measures in the protection zones and will remain in place until this event can be resolved fully.

### 3.2 No vaccination

The use of FMD vaccine was not indicated in controlling this current outbreak, as the main means of disease spread was demonstrated to be the transport of animals between commercial farms. When outbreaks spread contiguously, vaccination may be appropriate, especially where there are no fenced farm boundaries such as in communal areas. In the current outbreak, there were defined infected properties with fences, which made the use of emergency vaccination superfluous.

### 3.3 Ban on gathering of animals

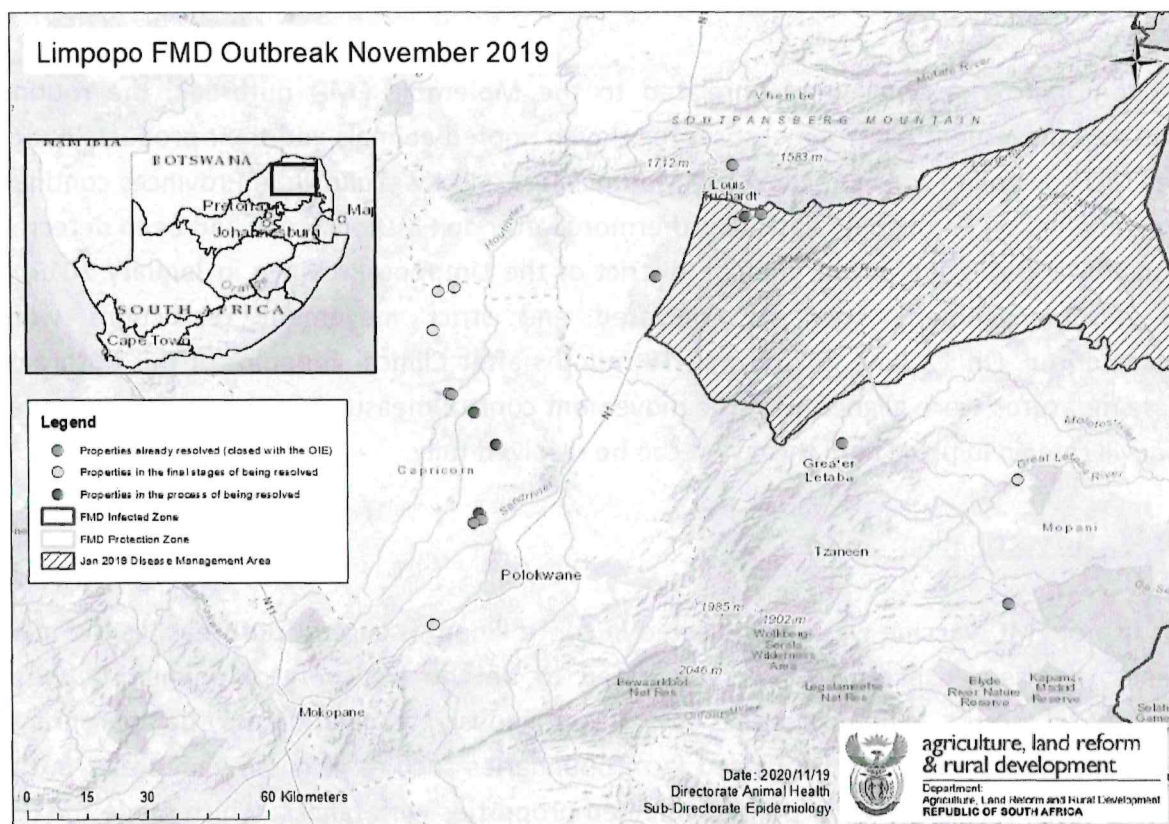
Since all the affected properties were linked directly or indirectly to specific auctions, a Government Gazette notice was issued on 4 December 2019, temporarily prohibiting such

gatherings. This prohibition was reconsidered once more than 90% of the primary contact premises linked to the auctions had been visited and their status determined. The prohibition on the gathering of cloven hoofed animals from two or more properties, for distribution to two or more properties, was lifted on 18 February 2020.

#### 4. Affected locations

The nineteen positive locations include commercial cattle breeding farms and cattle feedlots, as well as a community farm. The clinically affected animals are cattle in all cases. The map hereunder shows the locations of the affected premises within the Limpopo Province. Eight outbreaks have been resolved and closed with the OIE, while seven further properties are in the final stages of being resolved. Four properties remain under quarantine while testing of remaining animals is continuing.

Map 1: FMD locations in Limpopo Province



Note related to the map above - Some locations (open outbreaks) are in such close proximity to each other that they appear as one point on the map above



## 5. Outbreak resolution

### 5.1 Depopulation of feedlots by slaughter:

Nine of the affected premises are feedlots where all cattle on the farm were intended for slaughter. Eight of these feedlots have been depopulated and disinfected and quarantine subsequently lifted. Only one feedlot still has younger animals that are being prepared for slaughter. Permission was given to start depopulation of feedlots by slaughter from 6 weeks after the clinical end-point on each farm. The risk mitigation for early slaughter included disposal and/or processing of the heads, feet and offal and two abattoirs were specifically designated for this purpose. Animals on affected properties were allowed to be presented for normal slaughter once 6 months have passed after clinical end-point on the premises. The first farms reached this point during May 2020. More than 11 500 cattle from premises under quarantine have been slaughtered since 20 January 2020.

### 5.2 Depopulation of farms by removal to other affected premises:

In two instances, the same client owned two affected farms (i.e. two clients and four farms). In these cases, the Director Animal Health permitted the consolidation of the outbreaks by allowing for the depopulation of two of these affected farms by moving all the animals to the other farm belonging to the same owner.

### 5.3 Testing of animals on affected premises:

Eight of the affected premises contain breeding animals, including sheep and/or goats, as well as slaughter animals in some instances. For these farms, consideration was given to the separation of the epidemiological groups on the farm, the history of how the premises became infected, the intended future use of the animals as well as additional serological tests that were conducted after a period of more than 8 months after clinical endpoint. The outbreaks have been resolved on four locations on the basis of a combination of removing affected groups by slaughter or relocation to another quarantined premises, as well as two rounds of negative serological testing of remaining groups of animals. Four farms remain under quarantine pending the results of follow-up serological tests.

## 6. Surveillance activities

Various surveillance activities for FMD are routinely conducted in South Africa and have continued during and following the Vhembe outbreak in January 2019 and the Molemole outbreak in November 2019. Together, all of these surveillance activities result in a comprehensive surveillance system able to detect FMD, should it occur in the Free Zone or the Protection Zone.

### 6.1 Clinical surveillance and disease investigations of any suspect cases or illegally moved animals (whole country)

FMD is a controlled disease according to South African legislation, and anyone who is aware of or suspects the occurrence of FMD, is required to report that suspicion to the local state veterinarian. This occurs periodically, and when it happens such reports are followed-up by clinical inspection and by testing as appropriate.

### 6.2 Continuous Sero-survey of the Protection Zone and the High Surveillance Area of the Free Zone

The FMD Continuous Survey is an active targeted surveillance programme, which was started in April 2015 and amended in April 2018. The survey targets the Protection Zone without vaccination, as well as the FMD High Surveillance Area (which is part of the (suspended) Free Zone). These are the highest risk areas for entry of the disease into the Free Zone, due to being adjacent to the Kruger National Park and international borders. The survey is run on a continuous basis to allow for early detection should there be any disease occurrence in the Protection Zone or the High Surveillance Area. At each sampling point, clinical examination is conducted and serum samples are collected for serology.

### 6.3 Serological testing done for export purposes (in the Free Zone)

Serological testing of cattle and other species is conducted periodically for export purposes (when required by the importing country). This is conducted in cattle originating from the Free Zone and also forms part of the surveillance system as passive surveillance.

### 6.4 Serological testing of buffalo in the Free Zone

According to the Buffalo Protocol of 2002, only FMD free buffalo may be kept in the Free Zone, on farms registered for the keeping of buffalo. Furthermore, all buffalo must be tested for FMD prior to any movement being permitted. Buffalo are also tested at the owner's request for herd screening purposes from time to time. In this way, a large number

of buffalo are tested annually from all over the country. This forms part of the surveillance system as passive surveillance.

## **7. Trade implications**

Most trade partners have retained the negotiated agreements for safe commodities, based on the guarantees provided for the processing to ensure inactivation of the virus. South Africa is also confident to certify for the safety of pork products from officially approved FMD free pig compartments.

## **8. Regaining of OIE free zone status**

The process of recovering South Africa's official FMD Free Zone is a lengthy process, with several large scale activities that have to be completed first before South Africa can re-apply for a free status. Some of these activities are currently ongoing and can be completed simultaneously, whereas some can only commence once other activities have been completed.

The activities that are currently ongoing include resolving and closing all open outbreaks with the OIE, reassessing the location of the free zone boundary, developing marketing strategies for the FMD controlled area and implementing individual animal identification and traceability systems.

Activities to follow include revising/redeveloping the FMD control strategies, implementing or strengthening the physical boundaries of the control zones, implementing the revised/redeveloped control strategy and ensuring that it is sustainable, followed by surveillance activities to prove freedom of disease.

Once all of the above are in place and have proven to be sustainable, South Africa can re-apply with the OIE for recognition of FMD free zone status.

Director Animal Health

Date:

