

REPUBLIC OF SOUTH AFRICA
NATIONAL DEPARTMENT OF AGRICULTURE



**NATIONAL DIRECTORATE
ANIMAL HEALTH**

**SUBMISSION TO THE OIE SCIENTIFIC
COMMISSION FOR ANIMAL DISEASES FOR
CONFIRMATION OF FOOT-AND-MOUTH
DISEASE CONTROL ZONES**

**FOOT-AND-MOUTH DISEASE FREE ZONE
WHERE VACCINATION IS NOT PRACTISED**

AUGUST 2005



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A. INTRODUCTION

It has become necessary for South Africa to re-define the Foot-and-Mouth control zones following the recent name changes by the OIE in the Terrestrial Animal Health Code 2005. This submission also provides an opportunity for describing South Africa's FMD Control Zones in terms of the new local structure of provinces that have been re-demarcated into district councils and municipal areas.

OIE QUESTIONNAIRE

FMD FREE ZONE WHERE VACCINATION IS NOT PRACTISED

I. RESUME OF REPORT

Resumé of Report of Country which applies for status, under Chapter 2.2.10 of the *Terrestrial Animal Health Code*, as having an FMD free zone where vaccination is not practised, in an FMD free country where vaccination is practised or in a country of which parts are still infected.

1. Regular and prompt animal disease reporting

(Describe here the national system and to whom you provide international disease reporting)

South Africa has a National Animal Disease Database, which has been in place since 1987. State Veterinarians throughout South Africa send monthly reports of controlled animal diseases and outbreaks to their Provincial Directors of Veterinary Services, who then send these reports to the National Directorate where this information is entered into a database and monthly reports are compiled. Six monthly reports on controlled animal diseases are sent to the OIE in Paris and monthly reports to all SADC countries and trading partners internationally. Emergency reporting also takes place whenever there is an outbreak or suspected outbreak of: Foot and mouth disease; African Swine Fever; Rift Valley fever; any disease that has already been eradicated in South Africa; and any disease that has never previously been diagnosed in South Africa. Emergency reports are also sent if there are any abnormal outbreaks of African horse sickness, Anthrax and Newcastle disease. These emergency reports are sent from the State Veterinarian directly to the National Director Veterinary Services and the OIE is then notified immediately via an SR1 form, as are all SADC countries and international trading partners.

2.a) No FMD outbreak in country for the past twelve months

(State date of last outbreak and refer to FMD eradication section)

There has been no outbreak of FMD in the free zone since 2000.

The 2000 and 2001 outbreaks in Camperdown and Middelburg were reported on in detail in the 2002 dossier provided to the OIE for re-instatement of the FMD free zone without vaccination.

Within the last twelve (12) months only one outbreak of FMD occurred in the Mopani District of Limpopo Province and was restricted to the buffer zone (definition according to 2005 Code). See attached map and please refer to the March 2005 report.

2.b) No evidence of FMD infection for the past 12 months

Foot and Mouth Disease surveillance in the free zone is conducted in the following manner;

i. Passive surveillance:

- Exports: Some of South Africa's trading partners require FMD testing of cloven-hoofed animals, including cloven-hoofed game prior to exporting.
- Farm visits by Veterinarians and Animal Health Technicians as well as meat inspections at abattoirs provide an additional opportunity to do surveillance for FMD.

ii. Active surveillance:

ii.1 Surveillance in the Kruger National Park (infected zone):

Buffalo

Endemic FMD caused by all three SAT types continues to actively cycle in the KNP buffalo populations. Most buffalo older than 12 months of age test sero-positive, and virus can regularly be isolated from probangs taken from sero-positive animals. A total of 206 buffalo were tested during the last 12 months, and continued to show this typical pattern of infection.

Impala

Three geographically distinct populations in the KNP (south, central and north) are sampled on a 3 monthly cycle. Generally 30 – 40 animals are captured examined and bled during each cycle. Any animal showing clinical signs are lethally sampled.

During the last 12 months, a total of 267 impala were captured examined and bled. No clinical signs or serological evidence of infection were detected.

Ad hoc

This component makes use of a Park-wide response to *ad hoc* opportunities to sample and necropsy cloven hoofed animals. During the last 12 months, carcasses were inspected and sera collected from 27 impala, 3 warthogs, 2 kudu and one bushbuck. No clinical lesions were found and were all sero-negative.

The purpose of this surveillance in the infected zone is to detect any active virus circulating and to type the isolated viruses and determine their R-values to assess immune coverage by the currently used vaccine strains.

ii.2 Buffalo countrywide

No buffalo is allowed to move without a movement permit. Such a permit will only be issued after testing proves to be negative for certain diseases, including FMD. A total of 1533 buffaloes were tested with negative results in the past 12 months.

ii.3 Cloven-hoofed animals in the non-vaccination area of the buffer zone.

Movement of cloven-hoofed animals (game and livestock) out of the non-vaccination area of the buffer zone is an exception and will only take place under special circumstances. Twenty-one (21) day quarantine with clinical inspection and negative serology is required from all individual animals.

Other animals in the non-vaccinated area of the buffer zone are screened on an ad hoc basis. A total of 369 game, 1335 cattle and 699 goats and sheep were tested in the last 12 months.

iii. Special surveys

iii.1 2001 – Whole country

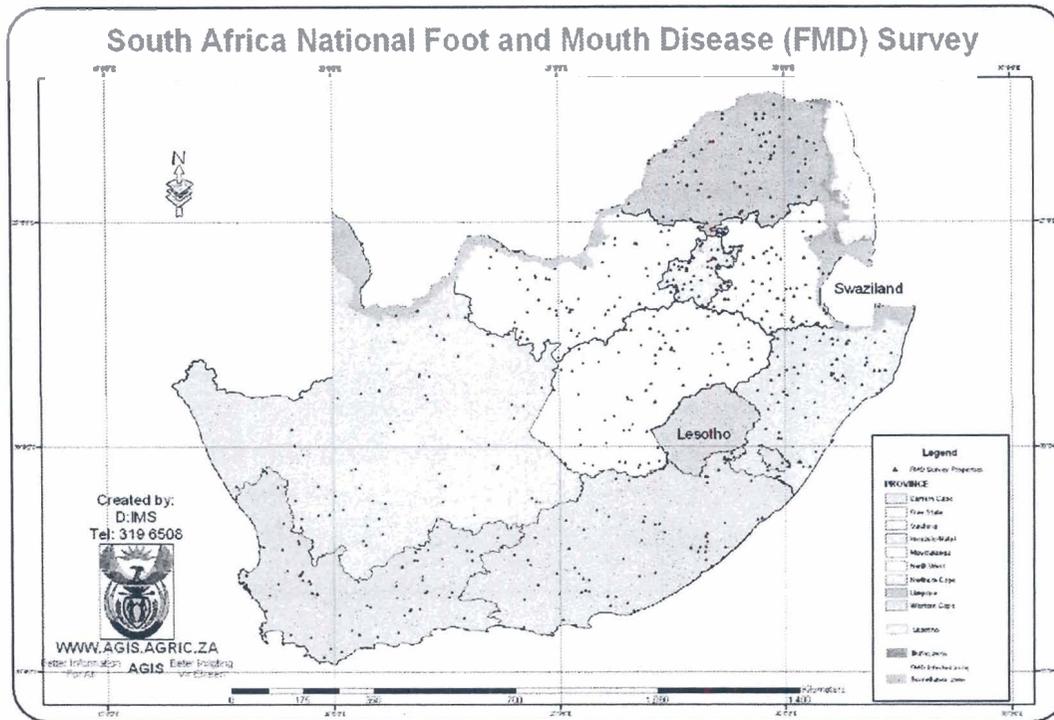
Summary of survey:

Table 1. Summary of the number of sera tested, and number of land parcels sampled for the national survey.

Province	Number of farms sampled*	Total no. of land parcels in sampling frame	Total number of samples submitted*	Number of dip tanks visited	Total number of samples submitted from dip tanks	Species	Max % pos at 95% confidence	Max % pos at 99% confidence
KwaZulu Natal	79	17 963	1 604	30	729	Bov	3.72	5.66
KZN Camperdown	19	17 963	380	4	72	298 bov, 58 cap, 24 ov		
Gauteng	63	2 414	921	0	0	Bov	4.62	6.99
Limpopo	79	7 434	1 508	18	378	Bov	3.76	5.72
North West	64	6 920	1 209	3	60	Bov	4.57	6.93
Western Cape	62	9 315	788	0	0	Bov	4.71	7.15
Freestate	63	29 011	1 107	0	0	Bov	4.64	7.04
Mpumalanga	65	4 295	1 138	6	110	Bov	4.36	7.02
Eastern Cape	77	22 543	1 385	20	341	Bov	3.81	5.80
Northern Cape	63	7 175	786	0	0	249 ov, 537 bov	4.64	7.03
Total	634	107 070	10 826	81	1 690			

* Including dip tanks

FMD Special survey in South Africa (2001)



iii.2 2002 – High risk areas around the infected zone

Repetition of 2001 survey in the high-risk areas around the infected zone.
See 2002 dossier.

iii.3 2005 – High risk areas around the infected zone, on borders with neighbouring countries and around the Mopani outbreak area in Limpopo province.

FMD Special Survey in South Africa (2005)

Introduction

A special Foot and Mouth Disease (FMD) survey was conducted from June 2005 to August 2005 to coincide with the redefining of the FMD control zones in South Africa in order to comply with OIE definitions. The survey was designed to prove the absence of FMD infected or FMD vaccinated cattle in the free zone to assure our international trading partners of South Africa's FMD free status in the FMD free zone.

The survey concentrated on high-risk areas around the infected zone and on borders with neighbouring countries, with an emphasis on the area around the Mopani District in the Limpopo Province where an FMD outbreak occurred in the buffer zone during 2004. (The areas of the free zone adjoining the infected zone or neighbouring countries as well as the area around the Foot and Mouth Disease laboratory are subject to ongoing surveillance by inspection ≈ Inspection area of the free zone)

Survey time period

June 2005 to August 2005.

Sampling strategy: A two-stage sampling strategy was used:

1st: stage: Randomly selected sampling points throughout the inspection area of the free zone. Number of samples to detect presence or absence of infection assuming a prevalence at herd level of > 1%.

Assumptions regarding Stage 1:

1. If FMD disease is present in South African cattle, at least 1% of herds/farms in an inspection area of the free zone will be infected.
2. That the "herd sensitivity" is 90 % (Type II error), i.e. the probability of saying a province is disease free when in fact it isn't, is 10%.
3. That the "herd specificity" is 99% (Type I error), i.e. the probability of saying a province is diseased when in fact it is not is 1 %.

2nd stage: Serum samples taken from a number of randomly selected cattle at each selected sampling point.

Assumptions regarding Stage 2:

1. If a herd has FMD, at least 25 % of the herd will be infected.
2. That the sensitivity of the diagnostic test in individual cattle is 95%.
3. That the specificity of the diagnostic test in individual cattle is 98%.

Only cattle were surveyed, in order to cut costs and because it is known that cattle are a more susceptible species to FMD and would thus serve as a good indicator species.

The serological survey based on the ELISA test was conducted at the Onderstepoort Veterinary Institute; Exotic Disease Division.

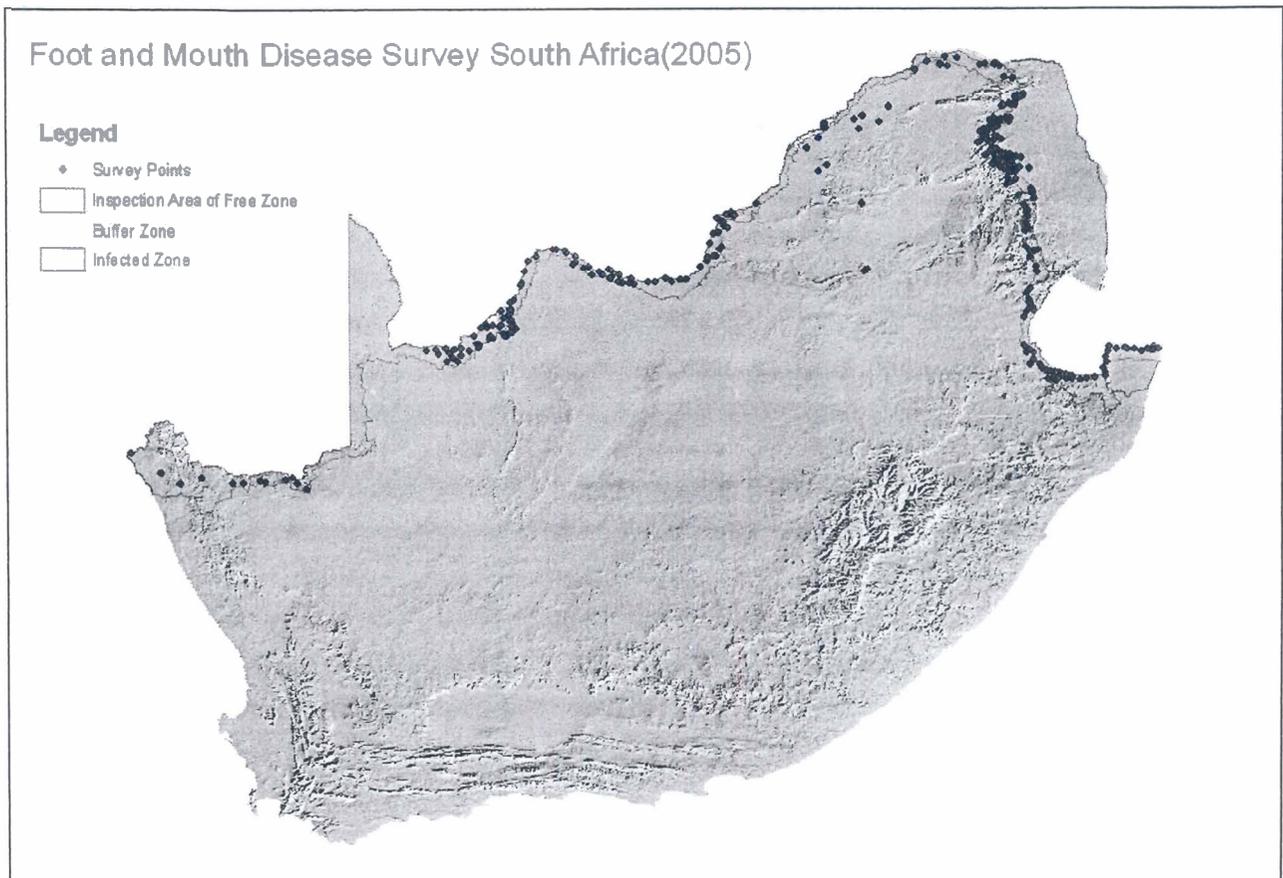
Summary of test results:

Table 2: Summary test results

Province	Number of sampling points	Number of sera tested
Gauteng	4	57
KwaZulu Natal	47	960
Limpopo	170	3 569
North West	60	1305
Mpumalanga	44	949
Northern Cape	62	1 218
Total	387	8 058

All samples tested negative.

FMD Survey South Africa 2005



2.c) No vaccination against FMD in the last twelve months

(State here whether vaccination in the zone is prohibited, since what date, and briefly describe how this is enforced.)

Vaccination is prohibited in the FMD free zone.

FMD vaccine for use in the infected and buffer zones only is produced under licence by the Exotic Diseases Division (EDD) of the Onderstepoort Veterinary Institute (OVI). FMD vaccine is produced only after authorisation by the National Director of Veterinary Services. All FMD vaccine remains under strict state veterinary control. There is no private sale and all vaccinations are conducted by state veterinary personnel. South Africa does not allow any other importation of vaccine.

2.d) Measure to control movement of vaccinated animals into the FMD free zone where vaccination is not practised *(State date of prohibition of entry of vaccinated animals, and refer to method of enforcement under section on FMD prevention.)*

The prohibition of vaccinated animals into the free zone from the FMD controlled areas has remained in force since South Africa successfully applied for OIE recognition of its FMD free zone in May 1996.

Table 3: Definition of the Foot and Mouth Disease Control Zones

Zone	Definition	Implication	Vaccination
Infected Zone	FMD virus is always present in the area (=endemic). Mainly KNP Complex (Game)	No movement of live cloven-hoofed animals is allowed out of the zone. Products must be treated	Vaccination if cattle occur (exceptional)
Buffer Zone	Acts as a buffer to keep FMD virus out of the free zone. Intensive surveillance to detect any possible outbreak before it gets near the Free Zone.	Live cloven-hoofed animals can only move out of the zone if not vaccinated or infected. Quarantine and blood tests are needed to prove that animals are free of FMD virus before movement (exceptional movements). Products must be treated.	Vaccination of cattle in the high-risk portion of the Buffer Zone.
Inspection Area of the Free Zone	This is part of the Free Zone with increased surveillance. International trade of cloven-hoofed animals or products is allowed.	No movement restrictions, except for testing of certain species of game.	No vaccination allowed.
Free Zone (Rest)	International trade of cloven-hoofed animals and products allowed.	No movement restrictions, except for testing of certain species of game.	No vaccination allowed.

Please refer to FMD Control Protocol for details, Appendix A.

3. Free zone, buffer zone and infected zone boundaries, where present

(Concise geographic description of free zone, buffer zone and infected zones, where present. Annex map with dimensions which includes zones and use of natural boundaries where relevant)

The free zone is the area previously approved by the International Committee of the OIE as a free zone in May 1996.

The buffer and infected zones are defined in South African legislation as FMD control zones under the Animal Diseases Act 35 of 1984 (Controlled Areas). The owners and managers of cloven-hoofed animals in the control zones are also informed individually of their status and obligations in terms of legal notifications. The FMD Control Protocol, see Appendix A, guides all state veterinary controlled movement of cloven-hoofed animals and their products into, within and out of the control zones. The exact boundaries of the FMD control zones have been verified by GIS mapping and included on the comprehensive map that is enclosed. See attached map.

4. Free zone

A. Surveillance

(Briefly describe system, refer to section on FMD surveillance in the free zone)

A national serological survey to prove FMD free status in the free zone has recently been conducted, refer to 2b above.

The country has trained veterinary personnel experienced in the diagnosis and management of FMD and who do the inspection and surveillance by visiting holdings or farms. Private veterinarians visit farms and see livestock on a regular basis and are involved with clinical examinations, vaccinations, treatments and do visual surveillance while on the farm. In addition there is organised agriculture, which consists of commercial and communal farmers who have the experience and are able to report any suspicious animals.

B. Regulatory measures

(Briefly describe measures, refer to section on FMD prevention in the free zone)

The FMD free zone is protected by control measures in the FMD control zones as described in the Animal Diseases Act 35 of 1984 and the FMD Control Protocol, see Appendix A. Strict import control and ongoing surveillance (refer to 2b above) offer protective measures.

There is also an inspection area bordering the buffer zone with increased surveillance within the free zone as well as on the borders of neighbouring countries.

5. Buffer zone

A. Surveillance

(Briefly describe system, refer to section on FMD surveillance in the surveillance zone)

The main aim of this zone is to be a buffer to prevent spill over of infection from infected zone to free zone by regular 6 monthly vaccinations of animals in high risk areas bordering the infected zone and regular inspection and surveillance. Previously vaccinated animals are not allowed to enter the FMD free zone of South Africa. This is achieved by inspection of cattle every 7 days and small stock is inspected every 28 days. Susceptible game species are also inspected and tested (see 2b) where possible. Vaccinated cattle are slaughtered within the FMD control zones and in exceptional cases at abattoirs in the free zone in accordance with the guidelines of the *Terrestrial Animal Health Code*.

Vaccinated animals are slaughtered at designated abattoirs.

B. Regulatory measures

(Briefly describe measures, refer to section on FMD prevention in the surveillance zone.)

Vaccinated animals are F-branded and may not leave this zone, except when destined for slaughter at designated abattoirs. Cattle movements within the buffer zone are allowed after a satisfactory inspection and vaccination history. They are also quarantined for 21 days and are only translocated when inspection and mouth examination are negative. Cattle can also be moved directly to a designated abattoir. (See FMD Control Protocol ,Appendix A)

Furthermore, a 2.4 meter 20 strand electrified fence has been erected and improved around the Kruger National Park which will drastically reduce buffalo and cattle contact and further FMD outbreaks.

6. Infected zone

A. Surveillance

FMD is endemic to the Kruger National Park (KNP) where carrier buffaloes are kept. The infected zone is limited to and includes the Kruger National Park and the surrounding areas. Surveillance is carried out regularly when animals are being moved. (See 2b)

B. Regulatory measures

Cattle of all ages in this zone are vaccinated twice yearly with a 6 month interval. Livestock registers with vaccination dates, herd identities and the number of cattle vaccinated are kept. (See FMD Control Protocol, Appendix A)

<p>NOTE: ANNEXES FOR THE FOLLOWING SECTIONS WHICH ARE NOT IN ONE OF THE THREE OFFICIAL OIE LANGUAGES SHOULD HAVE A BRIEF SUMMARY IN ONE OF THESE LANGUAGES.</p>
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II. REPORT CONTENTS

II.1 SECTION FMD PREVENTION

The following apply to the whole of South Africa;

1. National (and international, if applicable) coordination

All FMD activities in the Free Zone are coordinated and managed by the *Veterinary Administration*.

2. Import control (into the zone)

2.1. Policy and risk assessment

The international guidelines of the OIE Terrestrial Animal Health Code are used and where international guidelines are not available, risk analysis is done for the specific commodity. The risk assessment format is based on the format suggested in the OIE Terrestrial Animal Health Code, Chapter 1.3.2. Conditions of import are based on risk assessment. All animals and animal products that are imported must be accompanied by a veterinary import permit and must comply with the requirements of the import permit. Importation of live animals and fresh meat (of FMD susceptible species) is only permitted from countries or zones recognized by the OIE as FMD free without vaccination.

2.2 Risk management in relation to animals and products

Animals and animal products may only enter through designated ports of entry. Animals are required to undergo pre-export and post-import quarantine for a period of 30 days in each case. Imported animals may not be vaccinated against FMD. Genetic material from non-vaccinated donor animals kept at approved facilities in the FMD free zones is allowed.

2.3 Biological security of laboratories and production and testing facilities

The Exotic Diseases Division (EDD) of the Onderstepoort Veterinary Institute (OVI) is a high containment facility that is built in such a way that work can be performed on exotic animal diseases without posing a threat of spreading disease to the livestock industry. The EDD is the World Animal Health Organisation (OIE) reference laboratory for African swine fever (ASF) and the Food and Agriculture Organisation (FAO) collaborating centre for ASF and foot and mouth disease (FMD).

The EDD is designed with special air filters and effluent sterilisation plant to prevent pathogens from escaping from the laboratory. There are four established biosafety levels consisting of combinations of laboratory practices and techniques, safety equipment and laboratory facilities.

The vaccine production facility adheres to good manufacturing processes. The vaccine used during the outbreak was a formalin and binary ethyleneimine inactivated vaccine against FMD, produced at the EDD, Onderstepoort Veterinary Institute according to the processes described in the OIE Manual of Standards for Diagnostic Tests and Vaccines (2004). FMD viruses were propagated on baby hamster kidney (BHK) cells in monolayer, inactivated and subsequently purified and concentrated. The resulting antigens were stored at ultra-low temperature until formulation of the final vaccine. The vaccine used in cattle, sheep and goats was made in an aluminum-saponin adjuvant (ALSA). The vaccine strains are all viruses isolated from buffalo in the Kruger National Park and contained 2 SAT-1, 1 SAT-2 and 1 SAT-3 strains.

All diagnostic tests are performed according to the OIE Manual of Standards for Diagnostic Tests and Vaccines (2004). The serological tests used were the liquid phase blocking ELISA, the virus neutralization assay as gold standard and the NSP ELISA. Virus isolation is performed using primary pig kidney cells and PCR and nucleotide sequencing.

3. Supervision by *Veterinary Authority*

The Republic of South Africa is divided into 9 provinces. Each province is divided into district councils and municipal areas. Each area has one or more state veterinarians who manage the veterinary control in the area with the help of trained Animal Health Technicians. The state veterinarians report to their immediate managers who in turn report to the Provincial Director. The individual provinces are responsible for the local control of FMD. All the suspect cases are reported to the Provincial Director who then reports to the Senior Manager Animal Health at the *Veterinary Administration*.

The *Veterinary Authority* is responsible for all the inspections and testing done in the Free Zone.

II.2. SECTION FMD SURVEILLANCE

The following apply to the whole of South Africa;

1. Diagnosis and Serological surveillance

All suspect animals reported by farmers or picked up by field personnel are clinically examined and blood and tissue samples taken to exclude foot -and-mouth. All suspect animals are reported by *Veterinary Authorities* and the laboratory results are sent directly to the *Veterinary Administration* for interpretation.

Received specimen are registered and tested for all SAT- types of foot-and-mouth using the ELISA.

Refer to Section I (2b) for full details.

Livestock demographics and economics

The livestock population in South Africa is an estimated 10 547 227 cattle, 27 695 162 sheep and 5 274 608 goats distributed in all provinces. A large proportion of these animals are in the commercial sector.

Slaughterhouses and markets

Slaughterhouses, also called abattoirs, can be classified into export abattoir (as defined in the Meat Safety Act 40 of 2000) and designated abattoirs (defined in the Foot and Mouth Protocol, Animal Diseases Act 35 of 1984).

Export abattoirs, and associated processing plants are directly controlled by *Veterinary Authority* (Provinces) under the Meat Safety Act 40 of 2000. The *Veterinary Authority* is responsible for keeping an updated register of all the abattoirs in the province. The *Veterinary Administration* is responsible for routine inspections at these establishments. Primary inspection is done by meat inspectors employed by an independent organisation that is remunerated by the establishment. The meat inspectors are supervised by the *Official Veterinarian*. The meat inspectors are authorised by the *Veterinary Authority* and should they fail to perform duties as prescribed by the Official Veterinarian they are withdrawn and may not perform any legal controls. The products from the export abattoir may be exported without any restriction.

Supervision by *Veterinary Authority*

The *Veterinary Authority* is responsible for all the inspections and testing done in the Free Zone. All the suspect cases are reported to the *Veterinary Administration*.

II.3. SECTION FMD ERADICATION

Describe here on a summary of approximately one page how FMD was eliminated from the FMD free zone. National regulations, laws and *Veterinary Administration* directives may be referred to and annexed as appropriate. Please address concisely the following topics.

1. History (epidemiological description of events)

Hutcheon made the first official record of foot-and-mouth disease ('klouwsiekte' or also known then as tongue or hoof sickness) in South Africa in 1892, when an outbreak occurred in Griqualand West¹. The scourge was, however well known to several farmers and, according to information obtained from other older inhabitants, it had been prevalent in South Africa for many years before this outbreak was

¹ INFECTIOUS DISEASES OF LIVESTOCK, VOLUME 2, Edited by, J.A.W. Coetzer, G.R. Thomson, R.C. Tustin, pages 825-852.

reported. The disease never assumed serious proportions, and no further outbreaks were reported after 1895.

In April 1903 foot-and-mouth disease reappeared in South Africa. This was caused by shipments of cattle from Argentina to the Cape Peninsula.

Foot-and-mouth disease disappeared from the region until April 1931, when it occurred in Zimbabwe. Since then foot-and-mouth disease has occurred regularly in most southern African countries. As a result outbreaks in the free zone were diagnosed on the borders with Botswana in 1961 and on the Zimbabwean border in 1981.

There have been introductions of the disease into the free zone in 1933 and 1957 in the now called Gauteng province, in 1938 and 2000 in Kwazulu Natal province and in a feedlot in Mpumalanga province in 2000. FMD has never been endemic in the free zone.

2. Strategy of eradication

Gauteng province (1933 and 1957): and Kwazulu Natal (1938) quarantine, movement control and stamping out were done.

Kwazulu Natal province (2000): quarantine, movement control, stamping out and limited ring vaccination to prevent further spread were done.

Mpumalanga province (2000): Middleburg Kanhym feedlot, vaccination and stamping out.

Refer to the 2002 dossier for detailed report.

3. Use of vaccines and vaccination (employment and vaccine quality control), if used

The use of vaccine in the free zone is prohibited. However, a saponin/alhydrogel adjuvant vaccine was used for a limited ring vaccination in the periphery of the communal area in Kwazulu Natal outbreak in September 2000. These animals later tested negative serologically in December 2001.

In Mpumalanga province (Kanhym feedlot) emergency vaccination and subsequent slaughter of all the vaccinated cattle, sheep and more than 44 000 porkers were completed by 5 December 2001 in cattle, 28 February 2001 in sheep and 31 July 2001 in porkers.

Organisation of eradication campaign

The *Veterinary Administration* as defined in the *Code*, controls all regulatory matters for disease control and has legal precedence over the *Veterinary Authority* of provincial administrations.

Execution of eradication campaign

Refer to the 2002 dossier for detailed report.

6. Animal identification and movement control

The Animal Identification Act 2002 (Act No. 6 of 2002) was promulgated on 21-11-2003 and was implemented at the end of March 2005. At that stage a total of 370720 identification marks have been registered on National Register of Animal Identification Act. It needs to be mentioned that the Animal Identification Act does not prescribe individual animal identification, but does not exclude this possibility. In terms of the current legislation, the whole of South Africa is a compulsory marking area for cattle, sheep and goats but all classes of livestock can be marked using this system. The marking system makes provision for hot or cold iron branding for cattle, equines and ostriches and for tattooing for small ruminants, pigs and ostriches.

In the FMD controlled area the animals are brought to the diptanks and identified according to ownership with individual stock cards and proper records of numbers for each owner. Register of all animals in the controlled areas are kept, and such animals are inspected on a regular basis.

Movement Control

The movement of animals and animal products into, within and out of FMD controlled areas are regulated by the issuing of veterinary movement permits. The local state veterinarian is responsible for the issuing of a veterinary movement permit. Control measures and restrictions on the movement of animals and animal products are implemented in accordance with our current legislation under the Animal Diseases Act 35 of 1984 and its regulations. See FMD Control Protocol, Appendix A.

All farmers in the FMD free zone are exempted from cattle movement control for FMD control purposes, except for buffalo movements.

7. Supervision by Veterinary Authority

Refer to point 4 under section II.2 FMD Surveillance.

II.4. SECTION ON LIVESTOCK INDUSTRY AND THE VETERINARY SYSTEM

In this section you are invited to describe, as applicable, additional information you feel may be of use for the report. Annexes may be enclosed and referred to as applicable. Please address concisely the following topics.

1. Veterinary Service response to FMD outbreaks

- *Policy (emergency, plans, funds)*: There is a contingency plan that has to be followed during the outbreak. Provinces use their funds initially and these will be re-imbursed by the National Directorate. The National Directorate of Animal Health is responsible for funding of the outbreak.
- *Deployment of resources (human and material)*: A Joint Operational Committee (JOC) consisting of Veterinary officials from the province and the national office, Police and Traffic Services and the National Defence Force is set up within 24 hours to manage the outbreak. The technical field personnel are deployed from the affected province and nationally depending on the need. The campaign material is initially outsourced from the province and subsequent provisions are made from the allocated budget.
- *Epidemiological studies (origin, diffusion)*: An epidemiological investigation is conducted as soon as the outbreak has been established to determine the source and to prevent further spread of the disease. The findings are communicated to all role-players including the farmers and the public at large.

2. Veterinary System

Refer to point 3 under section II.1 FMD Prevention.

3. Livestock industry

The representatives of different groups of organised agriculture (communal and commercial farmers) are immediately notified about the outbreaks. These groups further disseminate the information among their members who may have missed the public announcements through the media.

4. Regional program framework

The SADC countries are immediately informed about the outbreak.

5. Other international FMD status reports.

The international reports received by the National Directorate are immediately distributed to all provinces and other role-players.

Appendix A

REPUBLIC OF SOUTH AFRICA - VETERINARY SERVICES

FOOT-AND-MOUTH DISEASE CONTROL PROTOCOL 2005

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Inspection

Vaccination

Movement control

- Annexure 1 Description of extent of zones**

CHAPTER A : INTRODUCTION

Abbreviations

FMD	Foot-and-mouth disease
Act	Animal Diseases Act, no. 35 of 1984, as amended
RSA	Republic of South Africa
Regulation	Animal Diseases Regulations, R2026 of 1986-09-26, as amended
s	
protocol	Foot-and-mouth disease control protocol 2004
PEO	Provincial Director of Veterinary Services / Provincial Executive Officer
NEO	National Senior Manager Animal Health / National Executive Officer
DD	Deputy Director Animal Health
SV	State Veterinarian
AHT	Animal Health Technician
KNP	Kruger National Park
OIE	Office International des Epizooties (World Organisation for Animal Health)

A1. Application of the Foot-and-mouth Disease Control/Prevention Protocol

- 1.1. The application of the protocol is mandated by the ANIMAL DISEASES ACT, 1984 (Act no. 35 of 1984) and regulations promulgated in terms thereof (see chapter B).
- 1.2.1. The aim of the protocol is to provide for the prevention of spread of FOOT-AND-MOUTH DISEASE in the Republic of South Africa.
- 1.2.2. The protocol makes provision for INSPECTIONS, VACCINATIONS AND MOVEMENT CONTROL for the early detection of disease, enhancing immunity against FMD and to minimise the spread of disease through the movement of animals and animal products.
- 1.3. The protocol DOES NOT INCLUDE any “OUTBREAK CONTINGENCY PLAN” or “STANDARD OPERATIONAL PROCEDURES FOR OUTBREAK CONTROL”. In case of an outbreak or suspected outbreak of FMD this protocol will be overruled by the FMD contingency plan and/or control campaign protocol.
- 1.4. The protocol serves as a PROCEDURE MANUAL FOR ALL ROLE-PLAYERS who are involved with FMD control.
- 1.5. The STATE VETERINARIAN (SV) is responsible for the application of the protocol in his/her SV area and has to ensure that every official under his/her control who applies the protocol is acquainted with the contents thereof.
- 1.6. ALL VETERINARY OFFICIALS and other persons and role-players involved with FMD control must adhere strictly to the protocol. No deviation from the protocol is allowed, unless written authority is obtained from the relevant Provincial Director of Veterinary Services / Provincial Executive Officer (PEO) in consultation with National Senior

Manager Animal Health / National Executive Officer (NEO). Application for deviation or exemption must be made in writing to the NEO via or by the relevant PEO.

- 1.7. The protocol must be read, interpreted and applied AS A WHOLE.
- 1.8. The "BUFFALO PROTOCOL" prescribes all the procedures involved with the keeping, movement and disease-free breeding of buffalo in the entire RSA and should be read in conjunction with this protocol.
- 1.9. The extent of the BUFFALO FREE ZONE that separates FMD carrier buffalo from other buffalo is described in the Buffalo Protocol.
- 1.10. Any ambiguity, contradiction, omission or problem in the protocol or which may arise when applying the protocol must be REPORTED to the responsible SV, DD and PEO.
- 1.11. IMPORT CONTROL at all ports of entry, including border posts, harbours, airports, railway lines, whether in the infected, buffer, surveillance or free zone, should be performed to prevent incursion of FMD into the RSA. Import control is not covered by this protocol.
- 1.12. VETERINARY FENCE CONTROL, including that of international boundary fences, the Kruger National Park veterinary fence and fences of land registered for the keeping of buffalo in the controlled areas, should be performed to prevent spread of FMD from infected buffalo populations or from neighbouring countries to the RSA or rest of RSA, including erection, patrol and maintenance. Veterinary fence control is not covered by this protocol.
- 1.13. FMD control is a HIGHLY IMPORTANT PRIORITY and carelessness and negligence will not be tolerated.

A2. Definitions and procedures

Definitions in the Act and Regulations and in article 1.1.1.1. of Chapter 1.1.1. of the OIE Terrestrial Animal Health Code are also applicable in the protocol.

In the protocol the meaning of the following words and phrases are as follows:

2.1. SUSCEPTIBLE SPECIES

⇒ All **cloven-hoofed livestock** (cattle, goats, sheep, pigs and exotic cloven-hoofed species including water buffalo and camels) and all **cloven-hoofed game** (families Suidae, Giraffidae and Bovidae of the order Artiodactyla).

Humans are also susceptible and a self-limiting infection can cause fever and vesicles. Any person who therefore handled an infected or suspect infected animal must refrain from handling any susceptible animal before day 5 following exposure, despite disinfection of hands, clothes, instruments and other exposed items or body parts.

2.2. NON-SUSCEPTIBLE SPECIES

⇒ **All other mammals** including rhinoceros, hippopotamus, equines, all carnivores (including lions, other wild cat species, hyenas and wild dogs), monkeys and baboons

⇒ Birds, reptiles, amphibians, fish and invertebrates.

2.3. PRODUCTS OF SUSCEPTIBLE ANIMALS

⇒ **Any part or portion of, or product derived from any susceptible animal, including any such part, portion or product in any processed form, such as:**

- a carcass or part of a carcass, including viscera, organs, glands, hair, wool, skin, hide, hoofs, horns, teeth, bones, blood, blood parts, milk, faeces, semen, ova, embryos, urine and any other fluid, secretions or excretions of such animal;
- milk and any dairy product;
- meat and any meat product;
- blood meal, bone meal, hoof meal, horn meal, carcass meal and liver meal;
- any other thing defined as an “infectious thing” in annexure 1 of the Regulations.

2.4. STATE VETERINARIAN'S AREA (SV AREA)

⇒ **A geographical area as determined by the relevant and responsible department in which one or more State Veterinarian(s) is/are responsible for the control of animal diseases** (regulation 1 (1) of the Regulations).

2.5. OFFICIAL SUPERVISION

⇒ **The physical presence of a veterinary official or authorised person during a controlled veterinary act; and**

⇒ **the satisfaction of such official or person that such act is performed correctly.**

2.6. QUARANTINE (regulation 13 of the Regulations).

⇒ **Quarantine is the isolation of susceptible animals in a quarantine camp which has been approved by a SV or an experienced official authorised by the SV (see also 2.7.) for a specified period to prevent exposure to or spread of infection.**

Biosecurity measures applicable to quarantine:

2.6.1. The quarantine camp as well as the animal-free zone as well the maintenance of all biosecurity measures is under the **control of the SV**.

2.6.2. Except for the veterinary officials only **persons tending to the animals** are allowed in a quarantine camp. Biosecurity must be applied at all times.

2.6.3. Quarantined animals must be **marked** in such a way that they can easily be identified (the group - not individual animals). However, when animals are to be tested serologically for FMD, they must be numbered individually for identification purposes. The type and nature of the mark must be indicated on the movement permit, if applicable.

- 2.6.4. Quarantined animals must be managed and kept in such a way that:
- there is **no contact or potential contact** between them and any other susceptible animal or its product;
 - they **do not make use of the same** grazing, water points, stables, pens, camps, diptanks, crush-pens or any other facility than any other susceptible animal or its product;
 - **dedicated workers** handle or tend to the quarantined animals only.
- 2.6.5. **Instruments, equipment, utensils, clothes, vehicles and other items** used in connection with quarantined animals must be disinfected before and after use.
- 2.6.6. The quarantine **period** is calculated from the time when all animals to be quarantined are present in the quarantine camp and should not be less than 21 days. During quarantine no animals may enter or leave the facility without permission (movement permit) of the veterinary official in charge of the quarantine.
- 2.6.7. Quarantined animals must be **inspected** and mouthed (in the case of livestock) for FMD (and inspected for any other disease) at least weekly and on the day on which the quarantine is to be cancelled by a veterinary official. Feet of all suspected cases must be washed and examined thoroughly. Where necessary, serum and/or tissue samples must be taken for further investigation according to the FMD contingency plan.
- 2.6.8. During the quarantine period complete **records** must be kept by the veterinary official and owner. The number of quarantined animals, all increases and decreases in numbers, the reasons therefore, all movements, deaths, treatments, inspections, examinations, tests and findings must be recorded.
- 2.6.9. During the quarantine period any disease or mortality amongst quarantined animals must be **recorded and reported** immediately by the owner to the responsible veterinary official for further investigation, and by the responsible veterinary official to the SV or Deputy Director.
- 2.6.10. The responsible veterinary official must **inspect the quarantine facilities** during the quarantine period. Gates of quarantine camps must be kept locked at all times. Any breaks in the fence must be repaired immediately by the owner of the quarantined animals. State-controlled quarantine stations must be maintained by the state.
- 2.6.11. Quarantine of animals originating from the **infected or buffer zone** may only take place in the infected or buffer (see below for description of the zones).

2.7. **QUARANTINE CAMPS**

⇒ **A quarantine camp is an animal holding facility that has been approved by a SV or an experienced official authorised by the SV, according to the protocol.**

2.7.1: A quarantine camp always consists of a **double fence** of which the two fences are 5 to 25 metres apart. Such a camp must have its own water supply. The animal-free zone between the two fences must at all times during quarantine be kept free of susceptible animals, and must be kept debushed at all times, to facilitate inspection.

2.7.2. Two **fence types** are applicable at quarantine camps, namely:

2.7.2.1. **Livestock-proof fence** means in the case of:

- **cattle** : a 1,3 metre high fence that effectively keeps cattle in/out;
- small stock** : a 1,3 metre high fence of which the bottom metre consists of pig mesh, diamond mesh, "Bonnox" or ordinary wire closely strained to keep small stock effectively in/out.

2.7.2.2. **Game-proof fence** means a fence strong and high enough to keep the relevant (present or potentially present) game species effectively in/out. Such a fence must at least be 2,4 metres high and the bottom metre must consist of pig mesh, diamond mesh, "Bonnox" or ordinary wire closely and tightly strained to effectively keep small stock / game in/out, also in accordance with nature conservation statutory requirements.

2.7.3. **Types of quarantine camps:**

2.7.3.1. **Approved quarantine camp for livestock**

⇒ *A camp with livestock-proof fence with a 5 to 25 metre animal-free zone between the two fences. Where susceptible game is present or potentially present on the farm/di-tank area the outer fence needs to be game-proof. A crush must be available inside the camp to handle the relevant animals.*

2.7.3.2. **Approved quarantine camp for game**

⇒ Except if the PEO stipulates otherwise, a pen type camp (up to ± 100 metres x 100 metres) is acceptable for game. The camp must have two game-proof fences 5 to 25 metres apart.

2.7.4. A conspicuous **sign** must depict the area as a quarantine area.

2.8. **RETENTION (= "STANDSTILL")**

⇒ **Retention is the keeping of animals on the farm of destination for a specified period before further movement is allowed, to ensure traceability and to enable a final risk assessment.**

2.8.1. Retained animals are to be **marked** as described under 2.6.

2.8.2. Retention must be done on the farm of destination for the time **period** indicated on the movement permit (usually 30 days).

2.8.3. Before a movement permit indicating retention is issued, the SV at destination must **confirm in writing** that the facilities for retention on the farm of destination are satisfactory. It is the responsibility of the owner to arrange for this well in advance.

2.8.4. Retained animals can be **kept**:

- in a separate camp on the farm of destination, in which case the movement of other animals on the specific farm are not affected; or
- after mixing with other animals in either a separate camp or on the whole farm of destination, in which case all mixed animals are to be retained for the prescribed time period.

2.8.5. Retained animals need **not to be inspected**, except if the SV at origin deems it necessary.

2.8.6. The owner **must comply** with the condition of retention on the permit.

2.9. **RETENTION CAMPS**

⇒ **A retention camp for game is a camp or farm that is fenced with at least a single 1,8 metre high game-proof fence to keep the relevant game species effectively in/out.**

2.10. **DESIGNATED ABATTOIRS**

⇒ **A designated abattoir is an abattoir:**

- ⇒ **anywhere in RSA, excluding abattoirs from where products are exported, designated in writing by the relevant PEO for the direct slaughter of infected or potentially infected livestock originating from the buffer zone; or**
- ⇒ **in the infected or buffer zones, excluding abattoirs from where products are exported, designated in writing by the relevant PEO for the direct slaughter of infected or potentially infected livestock originating from the infected zone. (Regulation 20 (1) (a) (i) of the Regulations).**

2.10.1. Designated abattoirs must meet the following **requirements**:

- proper antemortal and postmortal inspection;
- effective holding facilities for live animals;
- effective holding facilities for carcasses for secondary meat inspection;
- effective access control to the abattoir premises.

2.10.2. The designation of an abattoir will be considered after **written application** by the abattoir owner and will specify the period, species, zone of origin of animals for slaughter, and any other condition under which such direct slaughtering may take place.

2.10.3. A **register** of designated abattoirs is to be kept at the office of the PEO.

2.11. **DIRECT SLAUGHTER**

⇒ **Direct slaughter entails:**

1. inspection and mouth examination at the place of origin with negative results;
2. temporary F-brand, if originating from infected or buffer zone;

3. movement of a potentially infected animal under cover of a red cross permit from origin to a designated abattoir as in 2.10., according to the conditions of such permit;
4. retention in the lairages of such an abattoir;
5. slaughter at such abattoir within 24 hours after arrival; and
6. restriction of movement from such abattoir without a permit (regulation 20 (1) (a) (i) of the Regulations).

2.12. OWN CONSUMPTION

⇒ **Own consumption is the use (excluding selling) of reasonable amounts (at the discretion of the SV) of animal products by the owner thereof, his/her dependants, employees or non-paying guests.**

2.13. LABORATORIES, BUTCHERIES, MEAT PROCESSING PLANTS, SMOKING PLANTS, BILTONG FACTORIES, TAXIDERMISTS, TANNERIES, SKIN AND HIDE PLANTS, STERILISATION PLANTS, DEBONING PLANTS

LABORATORIES, BUTCHERIES, MEAT PROCESSING PLANTS, SMOKING PLANTS, BILTONG FACTORIES, TAXIDERMISTS, TANNERIES and SKIN and HIDE PLANTS, STERILISATION PLANTS and DEBONING PLANTS are to be approved for the purpose of FMD control by the local SV according to the prescribed requirements and registered with the relevant PEO.

2.14. VETERINARY MOVEMENT PERMITS (regulation 20 (1) (a) of the Regulations).

2.14.1. The **purpose** of veterinary movement permits is to:

1. control movements which pose or potentially pose animal health risks by allowing such movements only on risk-mitigating conditions specified in such a permit;
2. monitor movements by keeping records for tracing and reporting purposes.

2.14.2. Veterinary movement permits issued by a SV or by a veterinary official authorised in writing by a SV are **required for**:

- All movements of **live cloven-hoofed animals** (livestock and game) and their **products** from, to or within the infected or buffer zones (regulation 20 (1) (a) (vi) and (vii) of the Regulations)
- All movements of **live cloven-hoofed game** from, to or within the surveillance zone (regulation 20 (1) (a) (vi) and (vii) of the Regulations)
- All movements of **live buffalo, warthogs, bushpigs and wild pigs** in the whole of RSA (regulation 20 (1) (a) (v) of the Regulations) (see also Buffalo Protocol and African Swine Fever Protocol)
- All movements of **live pigs** and **pig products** in the African swine fever controlled area as described in table 2 of the Regulations.
- All movements of **warthog, bushpig and wild pig products** in the African swine fever controlled area as described in table 2 of the Regulations, as well as in the provinces of Gauteng, Mpumalanga and Northwest (regulation 20 (1) (a) (ix) of the Regulations).

- All movements of **F-branded cattle** in the whole of RSA (branded in terms of table 3 of the Regulations).
- All movements of **cloven-hoofed livestock** from designated abattoirs as in 2.10. (regulation 20 (1) (a) (i) of the Regulations)
- All movements of **animals subject to official quarantine** or of animal products from areas subject to official quarantine.

2.14.3. Movement permits are only issued according to the conditions described in the protocol and **no deviation** is allowed without the written permission of the ND.

2.14.4. Movements from or to shows, auctions, abattoirs, feedlots, tanneries, taxidermists and animal rehabilitation centres are **NOT exempted** from movement permit control.

2.14.5. When a movement permit is issued, care must be taken that the applicant **thoroughly understands** what is expected of him/her, by explaining all the information, entries and conditions on the movement permit as well as his/her obligation to adhere thereto.

2.14.5. **From** an area means “out of “ an area.

2.14.6. The following must always be **recorded** on a veterinary movement permit (# = only if applicable to the specific movement) (permit format must make provision for this):

1. Permit number (including a serial number and indicating the issuing office/official and the year)
2. Name of applicant/mover (not necessarily the owner)
3. Contact details of mover (telephone number, address, etc.)
4. Amount, species and nature (eg. live, skin, meat, cape, etc.) of animals or products intended for movement
5. Identification of animals or products intended for movement
6. Origin (stock card number (#), farm/diptyank/place and magisterial district/local municipality)
7. Destination (by farm/diptyank/abattoir/place and magisterial district/local municipality)
8. Detailed conditions (including period and place of retention or quarantine or direct slaughter, period of validity, accompanying movement, inspection and keeping of permit, nature conservation permit needed, viable external parasites (regulation 20 (1) (a) (iii) of the Regulations), animal welfare, route, etc.) #
9. Seal number(s) #
10. Vehicle registration number #
11. Place and date of issuing of permit
12. Official date stamp
13. Print name, signature and contact details of issuing official
14. Registration numbers of buffalo farms of origin and destination #

2.14.7. Two **types of movement permits** are used, namely:

2.14.7.1. RED CROSS PERMIT

⇒ **A red cross permit is only used where animals or products to be moved are potentially infected and therefore subject to one or more restrictions *en route* or at destination.**

2.14.7.1.1. Red cross permits are **used for**:

- Movements from the infected or buffer zones in one SV area to any destination in the same or another SV area, as described in Chapter C;
- When quarantine or retention at destination is required;
- Movement from infected or buffer zones to a designated abattoir (see 2.10.) for direct slaughter, as described in Chapter C;
- All movements of live buffalo, warthogs, bushpigs and wild pigs (see also Buffalo Protocol and African Swine Fever Protocol).

2.14.7.1.2. **Requirements** that must be complied with for a red cross permit movement:

For movements from one SV area to another SV area, written proof of no objection must be obtained from the relevant PEO(s) (or DD(s) if delegated to) at destination.

- In the case of livestock, the herd from which the animals originate, has to be inspected by a veterinary official within the preceding seven days (from the infected or buffer zones) or 14 days (from the surveillance zone). If not, the herd must be inspected on the day on which the movement takes place.
- All cattle that have to be moved from the infected or buffer zones must be branded (or re-branded if necessary) with a permanent “F” brand on the right-hand side of the neck, including movements for direct slaughter (table 3 of the Regulations). If intended for direct slaughter at a designated abattoir (2.10.), the “F” brand may be temporary.
- The animals must be loaded under official supervision and the vehicle must under all circumstances be sealed by a veterinary official, except when moving from one farm / diptank area to another farm / diptank area in the same SV area provided that the movement is taking place under official supervision (i.e. physically accompanied by a veterinary official).
- Livestock moving to a designated abattoir for direct slaughter or livestock and game that must be quarantined at destination or inspected or in respect of which seals must be broken, must be moved at such a time that they do not arrive at destination over weekends, outside normal working hours or on public holidays (arrivals must preferably be from Monday to Thursday so that the animals can be slaughtered, inspected, quarantined or seals be broken on a Friday at the latest).
- The veterinary official at origin must inform the SV or veterinary official at destination either telephonically or by facsimile or e-mail of the following information as soon as the animals have been loaded:

- registration number of the truck/vehicle;
 - seal number(s);
 - number of animals loaded;
 - destination;
 - estimated time of arrival at destination, in order to arrange with a veterinary official to receive the animals and to break the seals.
- Arrangements for red cross permit movements must as far as possible be done together with routine inspection on the farm / at the diptank.
- For all red cross permit movements the veterinary official at destination is responsible for receiving of the animals, breaking the seals and official supervision of the washing and disinfection of the vehicle at destination.
- After the movement, the owner is responsible for the unloading of the animals, provision of a disinfectant approved by the SV, and washing and disinfection of the used vehicle at destination under official supervision.
- Any irregularities or discrepancies at origin, *en route*, at destination or elsewhere, of whatever nature, must be reported to the SV or DD without delay and investigated immediately.
- Entries on the red cross of a red cross permit must be written next to and not on top of the red cross, in order to render faxed or photocopied permits legible.

2.14.7.2. ORDINARY MOVEMENT PERMIT

⇒ **An ordinary movement permit is used for all other movements that are subject to veterinary movement permit control.**

It is not required that the SV at destination be informed telephonically or by facsimile of a movement on account of an ordinary permit movement.

2.14.8. The type of permit to be used for a specific movement is mentioned in the detailed movement protocol below (see chapter C).

2.14.9. Issuing of movement permits

- The SV in whose SV area the movement permit is issued, is responsible for the movement and must see to it that all requirements according to the protocol have been met, before a movement permit is issued.
- Movement permits may only be issued by veterinary officials authorised by the SV in writing.
- Red cross permits may only be issued by an official responsible for the area of origin, or otherwise after consultation with such official.
- No changes may be made on a veterinary movement permit. In case of an error, the permit must be cancelled and a new permit issued.

2.14.10. Distribution of movement permits

The original permit is given to the applicant and must accompany the animals or products during the movement and then be left at the destination until required by a veterinary official;

- one copy of the permit is for the Animal Health Technician (AHT) / SV at origin; (if applicable)

one copy of the permit is for the SV/AHT at destination to preferably be faxed or otherwise posted or couriered (immediately after issuing);

- one copy of the permit remains in the permit book.

2.14.11. *Permit registers (preferably electronic or otherwise hard copy) must regularly be kept up to date in every SV office in the country in table form capturing all information on movement permits.*

- **Movements of pigs, warthogs, bushpigs and wild pigs and their products are also subject to Regulation 20 of the Regulations, as well as the African Swine Fever Protocol.**

- **Movements of buffalo are also subject to Regulation 20 and 20 A of the Regulations, and to the Buffalo Protocol.**

- **Movements of kudu, warthog, bushpig, eland, hartebeest and other species diagnosed with bovine tuberculosis are also subject to tuberculosis control, where applicable.**

2.15. ANIMAL INSPECTION

⇒ Livestock inspection entails:

1. Regular audible (listening) and visual (looking) examination of all herds preferably at rest, as well as regular individual visual examination of all the animals in a population by an authorised veterinary official at the prescribed frequency, date, time and venue;
2. Mouthing and thorough foot washing and examination of all suspicious animals;
3. Counting of all animals presented for inspection;
4. Reconciliation of the previous counting with the present counting by recording data obtained from the owner on increases, decreases and absent animals (in terms of regulation 17 (1) of the Regulations):
 - a) Increases
 - births (also record the colour and sex of the new-born);

- movement on permit into the inspection area;
 - animals from another herd in the same inspection area;
 - extra animals of unknown origin;
 - stray in animals.
- b) Decreases
- deaths;
 - movement on permit out of the inspection area;
 - animals to another herd in the same inspection area;
 - stray out animals;
 - permanently missing animals.
- c) Absent animals
- sick;
 - missing;
 - absent without a reason.
5. Recording of findings on the stock card of the livestock-owner as well as in the livestock register;
 6. Recording of other findings, vaccinations, sampling, testing, etc. in the owner's stock card (if applicable) and in the official livestock register;
 7. Summarising of all records in livestock register;
 8. Follow-up inspection of absent animals on the same day;
 9. Immediate reporting of abnormal findings to the official's supervisor.

Proper handling and control of animals, extension to owners, co-operation of owners, sufficient facilities with reference to effectiveness, placing and orientation (sunlight), as well as motivated officials with perseverance are of the utmost importance to ensure proper livestock inspection.

⇒ **Game inspection entails the visual observation, inspection and examination of susceptible game as often as possible, whether live, hunted, culled, harvested, road-killed or otherwise dead game.**

2.16. INSPECTION AREAS

⇒ **An inspection area is an area of which all the animals in such area are inspected regularly as prescribed at the same place and time, irrespective of the ownership of the animals.**

⇒ A **farm** is one or more adjacent registered properties used by one or more animal owners for keeping of animals.

⇒ A diptank area is the communal grazing area on which the animals registered at a diptank are usually kept.

2.17. VETERINARY OFFICIAL

⇒ A State Veterinarian (SV) or Animal Health Technician (AHT) responsible for official duties in an area or authorised to perform official duties in such area.

CHAPTER B : LEGAL BASIS

1. Foot-and-mouth disease (FMD) is a **controlled animal disease** as defined in section 1 of the Animal Diseases Act, 1984 (Act no. 35 of 1984) in that control measures have been prescribed in terms of section 9 of the Act (Animal Diseases Regulations, R2026 of 1986-09-26, table 2, as amended). Therefore all statutory requirements applicable to controlled diseases are applicable to FMD.
2. Reference to **legislation** is made in this document where applicable.
3. **Office International des Epizooties** (OIE - World Organisation for Animal Health) guidelines and terminology are followed in this document, in order to meet the requirements of qualifying for a country having a FMD free zone without vaccination.
4. **Controlled areas (as per RSA legislation)**

The term “controlled areas” is used to be consistent with current legislation. Currently existing controlled areas as per RSA legislation are described in table 1 of the Animal Diseases Regulations, R2026 of 1986-09-26, as amended by R394 of 1991-03-01, R1136 of 1998-09-11, R361 of 2000-04-07 and R885 of 2001-09-21.

5. **Subdivision of the RSA into FMD control zones**

In demarcation of FMD control zones the environment, fences, the different ecological and geographical factors as well as all the epidemiological factors and types of animal husbandry being practised are taken into consideration.

If a farm, property, game reserve or conservancy or a part thereof in one zone forms a unit or is managed as a unit (i.e. there are no fences between them) with a farm, property, game reserve or conservancy or a part thereof specified in another zone, the entire unit will automatically fall within the zone having the highest FMD risk, unless ruled otherwise by the NEO in consultation with the relevant PEO according to a risk analysis.

For the purpose of this protocol and as far as possible according to The International Animal Health Code - 2005 of the OIE, the RSA is subdivided into the following 3 FMD control zones, with subdivisions as indicated:

5.1. **INFECTED ZONE**

*[OIE definition: **Infected zone** means a zone in which the absence of the disease under consideration has not been demonstrated by the requirements specified in this Terrestrial Code being met.]*

The **infected zone** is a clearly defined geographical area within RSA in which FMD is endemic due to the presence of FMD carrier buffalo.

- Routine FMD vaccination of cattle is practised.
- Strict movement control of live animals and products is applicable.
- Intensive FMD surveillance is conducted.

5.2. BUFFER ZONE

*[OIE definition: **Buffer zone** means a zone established to protect the health status of animals in a free country or free zone, from those in a country or zone of a different animal health status, using measures based on the epidemiology of the disease under consideration to prevent spread of the causative pathogenic agent into a free country or free zone. These measures may include, but are not limited to, vaccination, movement control and an intensified degree of disease surveillance.]*

The **buffer zone** is a clearly defined geographical area between the infected and free zones.

It is subdivided into two subzones:

5.2.1. BUFFER ZONE WITH VACCINATION

The **buffer zone with vaccination** is a clearly defined geographical area adjacent to the infected zone.

- Routine FMD vaccination of cattle is practised.
- No buffalo are allowed to be kept.
- Strict movement control of live animals and products is applicable.
- Intensive FMD surveillance is conducted.

5.2.2. BUFFER ZONE WITHOUT VACCINATION

The **buffer zone without vaccination** is a clearly defined geographical area adjacent to the free zone and some international boundaries.

- No FMD vaccination is practised.
- Strict movement control of live animals and products is applicable.
- Frequent FMD surveillance is conducted.

5.3. FREE ZONE (WITHOUT VACCINATION)

*[OIE definition: **Free zone** means a zone in which the absence of the disease under consideration has been demonstrated by the requirements specified in this Terrestrial Code for free status being met. Within the zone and at its borders, appropriate official veterinary control is effectively applied for animals and animal products, and their transportation.]*

The **free zone** is a clearly defined geographical area comprising the entire RSA excluding the infected and buffer zones. It includes the inspection area of the free zone.

- No FMD vaccination is practised.

5.3.1. INSPECTION AREA OF THE FREE ZONE

The **inspection area of the free zone** is a clearly defined geographical area within the free zone along the buffer zone and some international boundaries. It forms part of the controlled area as legislated.

- Movement control of live game is applicable.
- Regular FMD surveillance is conducted.

For the exact descriptions of the zones and subdivisions of zones according to *original farms, game reserves, magisterial districts, local and district municipalities and SV areas*, see annexure 1.

CHAPTER C : CONTROL PROTOCOL PER FMD ZONE

C1. INFECTED ZONE

1.1. DESCRIPTION OF THE EXTENT OF THE INFECTED ZONE

For the exact description of the infected zone according to *original farms, game reserves, magisterial districts, local and district municipalities and SV areas*, see annexure 1.

1.2. INFECTED ZONE CONTROL PROTOCOL

1.2.1. Inspections

- Inspection of cattle must be done every 7 days and inspection of small stock (i.e. goats, sheep and pigs) every 28 days.
- Movement of livestock is only allowed from farms / diptanks where inspection turnout and frequency is to the satisfaction of the SV.
- Susceptible game species, especially impala, must be inspected as regularly as possible.

1.2.2. Vaccination

- All cattle, irrespective of age, must be vaccinated every 6 months against FMD according to directions for use of the vaccine, including boosting of first time vaccinated cattle if applicable.
- Vaccination dates, herd identities and number of cattle vaccinated must be recorded accurately.
- Movement of cattle is only allowed from farms/diptanks where vaccination coverage is to the satisfaction of the SV.
- A permanent F-brand must be branded on the right side of the neck of each animal on the day when it is vaccinated for the first time, as well as during future vaccinations IF NECESSARY so as to ensure a clear, legible brand at all times since first vaccination (table 3 of the Regulations).

1.2.3. Movements

- Disease control fences with the purpose of prevention of contact between and movement of infected and susceptible animals must be maintained according to the Act and Regulations and must be inspected regularly by veterinary officials.
- Any lack of efficacy must be reported without delay to the responsible person and SV. (section 18 of the Act).

1.2.3.1. Live cloven-hoofed livestock (cattle, goats, sheep and pigs)

To infected zone:

- Movements from the free zone to the infected zone are allowed (ordinary permit).

- Movements from the buffer zone to the infected zone are allowed (red cross permit).
- Cloven-hoofed livestock attain infected zone status when moved to the infected zone.

Within infected zone:

- Movements of cloven-hoofed livestock within the infected zone are allowed (red cross permit) after:
 - written approval by the relevant PEO(s) (except when within one SV area);
 - a mouth examination with negative results;
 - satisfactory inspection history;
 - satisfactory vaccination history (if cattle); and
 - permanent F-brand (if cattle).

From infected zone:

- All cattle leaving the infected zone must be branded with a permanent F-brand on the right-hand side of the neck, except in the case of direct slaughter, when a permanent or temporary F-brand must be applied (table 3 of the Regulations).
- Movements of cloven-hoofed livestock from the infected to the buffer zone with vaccination are allowed only after (red cross permit):
 - written approval by the relevant PEO(s) (except when within one SV area);
 - a full clinical and mouth examination at the time of movement of all the animals to be moved with negative results;
 - a herd inspection of the remaining animals with negative results;
 - inspection of the herd twice within the last 7 days with no clinical signs of disease;
 - satisfactory inspection history;
 - satisfactory vaccination history (if cattle);
 - permanent F-brand (if cattle); and
 - vaccination of the entire herd (if cattle).
- Movements of cloven-hoofed livestock from the infected to the buffer zone without vaccination are allowed only after (red cross permit):
 - written approval by the relevant PEO(s) (except when within one SV area);
 - 21 days quarantine in the infected or buffer zone;
 - a full clinical and mouth examination at the time of movement of all the animals to be moved with negative results;
 - a herd inspection of the remaining animals with negative results;
 - inspection of the herd twice within the last 7 days with no clinical signs of disease;
 - satisfactory inspection history;
 - satisfactory vaccination history (if cattle);
 - permanent F-brand (if cattle); and
 - vaccination of the entire herd (if cattle).

- Movement of cloven-hoofed livestock for direct slaughter are allowed from the infected zone only to the designated abattoirs as in A2.10. which are in the infected or buffer zone, only after (red cross permit):
 - written approval by the relevant PEO(s) (except when within one SV area);
 - satisfactory inspection history;
 - satisfactory vaccination history (if cattle);
 - inspection and mouth examination with negative results;
 - temporary F-brand on all cattle to be moved.
- Goats and sheep may be moved from the infected zone to the adjacent buffer zone for direct slaughter for own consumption, provided that the whole herd of origin has been inspected at least once with negative results within the last 28 days as recorded in the livestock register, as well as at the time of movement (red cross permit).

Movement of F-branded or FMD vaccinated cloven-hoofed livestock from the infected zone to the free zone, requires the approval of the NEO in consultation with and on recommendation of the relevant PEO.

Movements of pigs are also subject to the African Swine Fever Protocol.

Movements of cattle are also subject to tuberculosis control, where applicable.

1.2.3.2. Products of cloven-hoofed livestock (cattle, goats, sheep and pigs)

To infected zone:

- Movements from the free or buffer zone to the infected zone are allowed (ordinary permit)

Within infected zone:

- Movements within the infected zone in the same SV area are allowed (ordinary permit)
- Movements from the infected zone in one SV area to the infected zone in another SV area are allowed only after written approval by the relevant PEO(s) (red cross permit)

From infected zone:

- Carcasses, meat and offal from designated abattoirs as in A2.10. may be moved from the infected zone for local consumption (not intended for export) within the infected or buffer zones without a permit, if accompanied by a valid invoice.
- Carcasses and offal not originating from designated abattoirs as in A2.10. may be moved from the infected zone for own consumption to the buffer zone (ordinary permit) provided that:

- the whole herd of origin has been inspected with negative results within the preceding 7 days (cattle) or 28 days (small stock), according to the livestock register; or
 - the whole carcass, head and feet have been inspected with negative results.
- Well-cooked heads, feet, intestines, deboned meat without glands, biltong treated with vinegar and dry sausages may be moved from the infected zone to any destination for own consumption (ordinary permit).
 - Hides and skins may be moved from the infected zone to any destination after 28 days salting under official supervision (ordinary permit).
 - No semen, ova and embryos are allowed to leave the infected zone, unless the OIE code for import from an infected country or zone is complied with.
 - Non-pasteurised milk may move without a permit from the infected zone to the buffer zone with vaccination or within the infected zone only. No non-pasteurised milk may be moved from the infected zone to the buffer zone without vaccination or to the free zone.

Pasteurised milk may move from the infected zone to any destination without a permit, only if intended for human consumption and not for export.

Blood samples, sheath washes and any other fresh samples may be moved from the infected zone to acknowledged laboratories only (red cross permit). This procedure is necessary to alert the laboratories of receiving potentially infected material.

Movements of pig products are also subject to the African Swine Fever Protocol.

1.2.3.3. Live cloven-hoofed game

Buffalo

- Buffalo may only be moved to farms registered for keeping FMD carrier buffalo (red cross permit)
- FMD carrier buffalo movements are restricted to the infected zone (red cross permit)
- Registration numbers of buffalo farms of origin and destination must appear on the movement permit.
- Buffalo moved from the free or buffer zone to the infected zone will attain FMD carrier buffalo status and infected zone status on arrival.

Buffalo movements are also subject to tuberculosis control.

For all buffalo movements see the Buffalo Protocol

Cloven-hoofed game other than buffalo

To infected zone:

- Movements of cloven-hoofed game other than buffalo from the free zone to the infected zone are allowed (ordinary permit)
- Movements of cloven-hoofed game other than buffalo from the buffer zone to the infected zone are allowed (red cross permit)
- Cloven-hoofed game other than buffalo moved from the free, surveillance or buffer zone to the infected zone will attain infected zone status on arrival.

Within infected zone:

- Movements of cloven-hoofed game other than buffalo within the infected zone are allowed (red cross permit), but only after written approval by the relevant PEO(s) if not within the same SV area.

From infected zone:

- Cloven-hoofed game other than buffalo may be moved from the infected zone to any destination only on the following conditions:
 - Written approval of the relevant PEO(s) if the movement is from one SV area to another;
 - All the animals must be quarantined in an approved quarantine camp in the infected or buffer zone (red cross permit to quarantine camp);
 - All the animals must be identified individually to the satisfaction of the SV;
 - All animals in quarantine must show negative serological results for FMD (all three SAT serotypes) at owner's cost after 21 days in quarantine (immobilisation at owner's cost);
 - In the case of clinical lesions detected during the quarantine period, all animals should be bled or rebled, and tissue (if possible) and probang samples taken and tested at state cost (immobilisation at owner's cost);
 - In case of positive results:
 - the seropositive animals must:
 - be removed immediately to the farm of origin (red cross permit); or
 - be destroyed with the approval of the PEO;
 - the seronegative animals must be rebled and tested at state cost 21 days after removal of all of the sero-positive animals (immobilisation at owner's cost);

If all the animals in quarantine test seronegative and are declared negative by the SV, they may be moved after 21 days in quarantine to any destination with 30 days retention in a game-proof camp at destination (red cross permit).

It is advisable to bleed and test animals during capture, so that seropositive animals can be removed sooner. This however will be done at owner's cost and does not replace the bleeding after 21 days in quarantine.

- Game originating from the free or buffer zone that make use of quarantine or other holding facilities in the infected zone attain infected zone status and will be handled as such.

Movements of warthogs and bushpigs are also subject to the African Swine Fever Protocol.

Movements of kudu, warthog, bushpig, eland, hartebeest and other species diagnosed with bovine tuberculosis are also subject to tuberculosis control, where applicable.

1.2.3.4. Products of cloven-hoofed game

Buffalo products

To infected zone:

- *Movements from the free or buffer zone to the infected zone are allowed (ordinary permit)*

Within infected zone:

- Movements of buffalo products within the infected zone are allowed (red cross permit), but only after written approval by the relevant PEO(s) if not within the same SV area.

From infected zone:

- Break-dry buffalo biltong, free of glands and large blood vessels and prepared with vinegar, and well-cooked buffalo meat may be moved from the infected zone to any destination for own consumption (ordinary permit).

“Break-dry biltong”: when rigor mortis is complete, the meat must be deboned, salted with cooking salt (NaCl) and completely dried, i.e. having a ratio between water and protein not greater than 2.25:1. It must not deteriorate at ambient temperature.

“Well-cooked meat”: meat must be deboned and defatted, and then subjected to heating so that an internal temperature of 70°C or greater is maintained for a minimum of 30 minutes. After cooking, it shall be packed and handled in such a way that it cannot be

exposed to a source of virus.

Products of cloven-hoofed game other than buffalo

To infected zone:

- Movements of products of cloven-hoofed game other than buffalo from the free or buffer zone to the infected zone are allowed (ordinary permit).

Within infected zone:

- Movements of products of cloven-hoofed game other than buffalo within the infected zone are allowed (red cross permit), but only after written approval by the relevant PEO(s) if not within the same SV area.

From infected zone:

- Cloven-hoofed game carcasses (other than buffalo) without heads, feet, intestines and lymph nodes may after official inspection of the heads and feet with negative results and at least 24 hours hanging be moved from the infected zone only to approved biltong factories or smoking plants in the infected or buffer zones, for the production of biltong or for smoking (red cross permit).
- Smoked venison from cloven-hoofed game (*excluding that of buffalo, warthogs, bushpigs and wild pigs*) from approved smoking plants may be moved from the infected zone to any destination (ordinary permit).
- Wind-dry biltong and dry sausages, free of lymph nodes and large blood vessels and prepared with vinegar, well-cooked boned or deboned venison, and deboned fresh venison from carcasses after hanging for at least 24 hours originating directly from **farms**, may be moved from the infected zone to any destination for own consumption (ordinary permit).
- Wind-dry biltong and dry sausages, free of lymph nodes and large blood vessels and prepared with vinegar, well-cooked boned or deboned venison, and deboned fresh venison from carcasses after hanging for at least 24 hours, purchased from approved **butcheries**, may be moved from the infected zone to any destination for own consumption without a permit, if accompanied by a specific and valid invoice.

All cloven-hoofed game products

From infected zone:

- Products which have been processed at Skukuza Abattoir may be moved to any destination (ordinary permit)
- Fresh venison may not be moved from approved butcheries in the infected zone to wholesalers or to other butcheries, in order to facilitate traceability.
- Game skins and trophies which have been treated by one of the following applicable methods under official supervision may be moved from the infected zone to any destination (ordinary permit):
 - boiling in water for an appropriate time so as to ensure that any matter other than bone, horns, hooves, claws, antlers or teeth is removed;
 - gamma irradiation at a dose of at least 20 kiloGray at room temperature (20°C or higher);
 - soaking, with agitation, in a 4% (w/v) solution of washing soda (sodium carbonate - Na₂CO₃) maintained at pH 11.5 or above for at least 48 hours;
soaking, with agitation, in a formic acid solution (100 kg salt (NaCl) and 12 kg formic acid per 1,000 litres water) maintained at below pH 3.0 for at least 48 hours; wetting and dressing agents may be added;
 - in the case of raw hides, salting for at least 28 days with sea salt containing 2% washing soda (sodium carbonate - Na₂CO₃).
- Blood samples and any other fresh sample may be moved from the infected zone to approved laboratories only (red cross permit)
- Processed trophies originating from approved taxidermists may be moved from the infected zone to any destination without a permit, if accompanied by a specific and valid invoice.

Movements of products of warthogs and bushpigs are also subject to the African Swine Fever Protocol.

C2. BUFFER ZONE WITH VACCINATION

2.1. DESCRIPTION OF THE EXTENT OF THE BUFFER ZONE WITH VACCINATION

For the exact description of the buffer zone with vaccination according to *original farms, game reserves, magisterial districts, local and district municipalities and SV areas*, see annexure 1.

2.2. BUFFER ZONE WITH VACCINATION CONTROL PROTOCOL

2.2.1. Inspections

- Inspection of cattle must be done every 7 days and inspection of small stock (i.e. goats, sheep and pigs) every 28 days.

Movement of livestock is only allowed from farms / diptanks where inspection turnout and frequency is to the satisfaction of the SV.

- Susceptible game species, especially impala, must be inspected as regularly as possible.

2.2.2. Vaccination

- All cattle, irrespective of age, must be vaccinated every 6 months against FMD according to directions for use of the vaccine, including boosting of first time vaccinated cattle if applicable.
- Vaccination dates, herd identities and number of cattle vaccinated must be recorded accurately.
- Movement of cattle is only allowed from farms/diptanks where vaccination coverage is to the satisfaction of the SV.
- A permanent F-brand must be branded on the right side of the neck of each animal on the day when it is vaccinated for the first time, as well as during future vaccinations IF NECESSARY so as to ensure a clear, legible brand at all times since first vaccination (table 3 of the Regulations).

2.2.3. Movements

- Disease control fences with the purpose of prevention of contact between and movement of infected and susceptible animals must be maintained according to the Act and Regulations and must be inspected regularly by veterinary officials.
- Any lack of efficacy must be reported without delay to the responsible person and SV. (section 18 of the Act).

2.2.3.1. Live cloven-hoofed livestock (cattle, goats, sheep and pigs)

To buffer zone with vaccination:

- For movements of cloven-hoofed livestock from the infected zone to the buffer zone with vaccination, see 1.2.3.1.
- Movements of cloven-hoofed livestock from the buffer zone without vaccination to the buffer zone with vaccination are allowed (red cross permit).

Movements of cloven-hoofed livestock from the free zone to the buffer zone with vaccination are allowed (ordinary permit).

Within buffer zone with vaccination:

- Movements of cloven-hoofed livestock within the buffer zone with vaccination are allowed (red cross permit) after:
 - written approval by the relevant PEO(s) (except when within one SV area);
 - a mouth examination with negative results;
 - satisfactory inspection history;
 - satisfactory vaccination history (if cattle); and
 - permanent F-brand (if cattle).

From buffer zone with vaccination:

- All cattle leaving the buffer zone with vaccination must be branded with a permanent F-brand on the right-hand side of the neck, except in the case of direct slaughter, when a permanent or temporary F-brand must be applied (table 3 of the Regulations).
- Movements of cloven-hoofed livestock from the buffer zone with vaccination to the buffer zone without vaccination are allowed only after (red cross permit):
 - written approval by the relevant PEO(s) (except when within one SV area);
 - 21 days quarantine in the infected or buffer zone;
 - inspection and mouth examination at the time of movement of all the animals to be moved with negative results;
 - satisfactory inspection history;
 - satisfactory vaccination history (if cattle);
 - permanent F-brand (if cattle); and
 - vaccination of the entire herd (if cattle).
- Movement of cloven-hoofed livestock for direct slaughter are allowed from the buffer zone with vaccination only to the designated abattoirs as in A2.10., only after (red cross permit):
 - written approval by the relevant PEO(s) (except when within one SV area);
 - satisfactory inspection history;
 - satisfactory vaccination history (if cattle);
 - inspection and mouth examination with negative results;
 - temporary F-brand on all cattle to be moved.
- Goats and sheep may be moved from the buffer zone with vaccination to the adjacent buffer zone without vaccination for direct slaughter for own consumption, provided that the whole herd of origin has been inspected at least once with negative results in the last 28 days as recorded in the livestock register, as well as at the time of movement (red cross permit).

Movement of F-branded or FMD vaccinated cloven-hoofed livestock from the buffer zone with vaccination to the free zone (except for direct slaughter) requires the approval of the NEO in consultation with and on recommendation of the relevant PEO.

Movements of pigs are also subject to the African Swine Fever Protocol.

Movements of cattle are also subject to tuberculosis control, where applicable.

2.2.3.2. Products of cloven-hoofed livestock (cattle, goats, sheep and pigs)

To buffer zone with vaccination:

- For movements of cloven-hoofed livestock products from the infected zone to the buffer zone with vaccination, see 1.2.3.2.
- Movements of cloven-hoofed livestock products from the free zone or the buffer zone without vaccination to the buffer zone with vaccination are allowed (ordinary permit)

Within buffer zone with vaccination:

- Movements of cloven-hoofed livestock products within the buffer zone with vaccination in the same SV area are allowed (ordinary permit)
- Movements of cloven-hoofed livestock products from the buffer zone with vaccination in one SV area to the buffer zone with vaccination in another SV area are allowed only after written approval by the relevant PEO(s) (red cross permit)

From buffer zone with vaccination:

- Carcasses, meat and offal from designated abattoirs as in A2.10. or from butcheries may be moved from the buffer zone with vaccination for local consumption (not intended for export) to any destination without a permit, if accompanied by a specific and valid invoice.
- Carcasses, meat and offal not originating from designated abattoirs as in A2.10. or from butcheries may be moved from the buffer zone with vaccination for own consumption to the buffer zone without vaccination or the inspection area of the free zone (ordinary permit) provided that:
 - the whole herd of origin has been inspected with negative results within the preceding 7 days (cattle) or 28 days (small stock), according to the livestock register; or
 - the whole carcass, head and feet have been inspected with negative results.
- Well-cooked heads, feet and intestines; deboned meat without glands, biltong treated with vinegar and dry sausages may be moved from the buffer zone with vaccination to any destination for own consumption (ordinary permit).
- Hides and skins may be moved from the buffer zone with vaccination to any destination after 28 days salting under official supervision (ordinary permit).
- No semen, ova and embryos are allowed to leave the buffer zone with vaccination, unless the OIE code for import from an infected country or zone is complied with.
- Non-pasteurised milk may move without a permit from the buffer zone with vaccination to the infected zone or within the buffer zone with vaccination only. No non-pasteurised milk may be moved from the buffer zone with vaccination to the buffer zone without vaccination or to the free zone.
- Pasteurised milk may move from the buffer zone with vaccination to any destination without a permit, only if intended for human consumption and not for export.
- Blood samples, sheath washes and any other fresh samples may be moved from the buffer zone with vaccination to acknowledged laboratories only (red

cross permit). This procedure is necessary to alert the laboratories of receiving potentially infected material.

Movements of pig products are also subject to the African Swine Fever Protocol.

2.2.3.3. Live cloven-hoofed game

Buffalo:

The keeping of buffalo are not allowed in the buffer zone with vaccination, but if stray buffalo do occur they must be removed without delay (Regulation 20 A of the Regulations), in which case the same protocol as for the infected zone applies (see 1.2.3.3.).

Buffalo movements are also subject to tuberculosis control.

For all buffalo movements see the Buffalo Protocol

Cloven-hoofed game excluding buffalo

To buffer zone with vaccination:

- For movements of cloven-hoofed game other than buffalo from the infected zone to the buffer zone with vaccination, see 1.2.3.3.
- Movements of cloven-hoofed game other than buffalo from the free zone to the buffer zone with vaccination are allowed (ordinary permit).
- Movements of cloven-hoofed game other than buffalo from the buffer zone without vaccination to the buffer zone with vaccination are allowed (red cross permit).
- Cloven-hoofed game other than buffalo moved from the free zone or the buffer zone without vaccination to the buffer zone with vaccination will attain buffer zone with vaccination status on arrival.

Within buffer zone with vaccination:

- Movements of cloven-hoofed game other than buffalo within the buffer zone with vaccination are allowed (red cross permit), but only after written approval by the relevant PEO(s) if not within the same SV area.

From buffer zone with vaccination:

- Movements of cloven-hoofed game other than buffalo from the buffer zone with vaccination to the infected zone are allowed (red cross permit), but only after written approval by the relevant PEO(s) if not within the same SV area.

- Cloven-hoofed game other than buffalo may be moved from the buffer zone with vaccination to the buffer zone without vaccination or free zone only on the following conditions:
 - Written approval of the relevant PEO(s) if the movement is from one SV area to another;
 - All the animals must be quarantined in an approved quarantine camp in the infected or buffer zone (red cross permit to quarantine camp);
 - All the animals must be identified individually to the satisfaction of the SV;
 - All animals in quarantine must show negative serological results for FMD (all three SAT serotypes) at state cost after 21 days in quarantine (immobilisation at owner's cost);
 - In the case of clinical lesions detected during the quarantine period, all animals should be bled or rebled, and tissue (if possible) and probang samples taken and tested at state cost (immobilisation at owner's cost);
 - In case of positive results:
 - the seropositive animals must:
 - be removed immediately to the farm of origin (red cross permit); or
 - be destroyed with the approval of the PEO;
 - the seronegative animals must be rebled and tested at state cost 21 days after removal of all of the sero-positive animals (immobilisation at owner's cost);
 - If all the animals in quarantine test seronegative and are declared negative by the SV, they may be moved after 21 days in quarantine to any destination with 30 days retention in a game-proof camp at destination (red cross permit).
 - It is advisable to bleed and test animals during capture, so that seropositive animals can be removed sooner. This however will be done at owner's cost and does not replace the bleeding after 21 days in quarantine.

Cloven-hoofed game other than buffalo originating from the free zone or buffer zone without vaccination that make use of quarantine or other holding facilities in the buffer zone with vaccination attain buffer zone status and will be handled as such.

Movements of warthogs and bushpigs are also subject to the African Swine Fever Protocol.

Movements of kudu, warthog, bushpig, eland, hartebeest and other species diagnosed with bovine tuberculosis are also subject to tuberculosis control, where applicable.

2.2.3.4. Products of cloven-hoofed game

Buffalo products

To buffer zone with vaccination:

- For movements of buffalo products from the infected zone to the buffer zone with vaccination, see 1.2.3.4.

Within buffer zone with vaccination:

- Movements of buffalo products within the buffer zone with vaccination are allowed (red cross permit), but only after written approval by the relevant PEO(s) if not within the same SV area.

From buffer zone with vaccination:

- For movements of buffalo products from the buffer zone with vaccination to the infected zone, see 1.2.3.4.
- Break-dry buffalo biltong, free of glands and large blood vessels and prepared with vinegar, and well-cooked buffalo meat may be moved from the buffer zone with vaccination to any destination for own consumption (ordinary permit).

“Break-dry biltong”: when rigor mortis is complete, the meat must be deboned, salted with cooking salt (NaCl) and completely dried, i.e. having a ratio between water and protein not greater than 2.25:1. It must not deteriorate at ambient temperature.

“Well-cooked meat”: meat must be deboned and defatted, and then subjected to heating so that an internal temperature of 70°C or greater is maintained for a minimum of 30 minutes. After cooking, it shall be packed and handled in such a way that it cannot be exposed to a source of virus.

Products of cloven-hoofed game other than buffalo

To buffer zone with vaccination:

- For movements of products of cloven-hoofed game other than buffalo from the infected zone to the buffer zone with vaccination, see 1.2.3.4.
- Movements of products of cloven-hoofed game other than buffalo from the free zone or buffer zone without vaccination to the buffer zone with vaccination are allowed (ordinary permit).

Within buffer zone with vaccination:

- Movements of products of cloven-hoofed game other than buffalo within the buffer zone with vaccination are allowed (red cross permit), but only after written approval by the relevant PEO(s) if not within the same SV area.

From buffer zone with vaccination:

- Cloven-hoofed game carcasses (other than buffalo) without heads, feet, intestines and lymph nodes may after official inspection of the heads and feet with negative results and at least 24 hours hanging be moved from the buffer zone with vaccination only to approved biltong factories or smoking plants in the infected or buffer zones, for the production of biltong or for smoking (red cross permit)
- Smoked venison from cloven-hoofed game (*excluding that of buffalo, warthogs, bushpigs and wild pigs*) from approved smoking plants may be moved from the buffer zone with vaccination to any destination (ordinary permit).
- Wind-dry biltong and dry sausages, free of lymph nodes and large blood vessels and prepared with vinegar, well-cooked boned or deboned venison, and deboned fresh venison from carcasses after hanging for at least 24 hours originating directly from **farms**, may be moved from the buffer zone with vaccination to any destination for own consumption (ordinary permit).
- Wind-dry biltong and dry sausages, free of lymph nodes and large blood vessels and prepared with vinegar, well-cooked boned or deboned venison, and deboned fresh venison from **carcasses** after hanging for at least 24 hours, purchased from approved **butcheries**, may be moved from the buffer zone with vaccination to any destination for own consumption without a permit, if accompanied by a specific and valid invoice.

All cloven-hoofed game products

From buffer zone with vaccination:

- Fresh venison from cloven-hoofed game may not be moved from approved butcheries in the buffer zone with vaccination to wholesalers or to other butcheries, in order to facilitate traceability.
- Game skins and trophies which have been treated by one of the following applicable methods under official supervision may be moved from the buffer zone with vaccination to any destination (ordinary permit):
 - boiling in water for an appropriate time so as to ensure that any matter other than bone, horns, hooves, claws, antlers or teeth is removed;

- gamma irradiation at a dose of at least 20 kiloGray at room temperature (20°C or higher);
 - soaking, with agitation, in a 4% (w/v) solution of washing soda (sodium carbonate - Na₂CO₃) maintained at pH 11.5 or above for at least 48 hours;
 - soaking, with agitation, in a formic acid solution (100 kg salt (NaCl) and 12 kg formic acid per 1,000 litres water) maintained at below pH 3.0 for at least 48 hours; wetting and dressing agents may be added;
 - in the case of raw hides, salting for at least 28 days with sea salt containing 2% washing soda (sodium carbonate - Na₂CO₃).
- Blood samples and any other fresh sample from cloven-hoofed game may be moved from the buffer zone with vaccination to approved laboratories only (red cross permit).

Processed trophies of cloven-hoofed game originating from approved taxidermists may be moved from the buffer zone with vaccination to any destination without a permit, if accompanied by a specific and valid invoice.

Movements of products of warthogs and bushpigs are also subject to the African Swine Fever Protocol.

C3. BUFFER ZONE WITHOUT VACCINATION

3.1. DESCRIPTION OF THE EXTENT OF THE BUFFER ZONE WITHOUT VACCINATION

For the exact description of the buffer zone without vaccination according to *original farms, game reserves, magisterial districts, local and district municipalities and SV areas*, see annexure 1.

3.2. BUFFER ZONE WITHOUT VACCINATION CONTROL PROTOCOL

3.2.1. Inspection

- Inspection of cattle must be done every 14 days and inspection of small stock (i.e. goats, sheep and pigs) every 28 days.
- Movement of livestock is only allowed from farms / diptanks where inspection turnout and frequency is to the satisfaction of the SV.
- Susceptible game species, especially impala, must be inspected as regularly as possible.

3.2.2. Vaccination

- No vaccinations against FMD are allowed in the buffer zone without vaccination zone.

3.2.3. Movements

3.2.3.1. Live cloven-hoofed livestock (cattle, goats, sheep and pigs)

To buffer zone without vaccination:

- Movements from the free zone to the surveillance zone are allowed (ordinary permit)
- For movements from the buffer or infected to the surveillance zone, see 1.2.3.1. and 2.2.3.1. respectively.
- Movements of cloven-hoofed livestock from the free zone to the buffer zone without vaccination are allowed (ordinary permit).
- For movements of cloven-hoofed livestock from the buffer zone with vaccination or infected zone to the buffer zone without vaccination, see 1.2.3.1. and 2.2.3.1. respectively.

Within buffer zone without vaccination:

- Movements of cloven-hoofed livestock within the buffer zone without vaccination are allowed (red cross permit) after:
 - written approval by the relevant PEO(s) (except when within one SV area);
 - a mouth examination with negative results; and
 - satisfactory inspection history.

From buffer zone without vaccination:

- Movements of cloven-hoofed livestock from the buffer zone without vaccination to the buffer zone with vaccination or infected zone are allowed (red cross permit) after:
 - written approval by the relevant PEO(s) (except when within one SV area);
 - a mouth examination with negative results; and
 - satisfactory inspection history.

Movements of cloven-hoofed livestock from the buffer zone without vaccination to the free zone, except for direct slaughter, are only allowed after:

- written approval by the relevant PEO(s) (except when within one SV area);
- no vaccination history and no F-brand;
- satisfactory inspection history;
- individual identification of all the animals to the satisfaction of the SV;
- 21 days quarantine in an approved quarantine camp in the buffer zone;
- a negative serological test for all 3 SAT serotypes at state cost after 21 days in quarantine (state pays only for one test per animal per movement); and
- a mouth examination with negative results after 21 days in quarantine.

(red cross permit to quarantine camp, ordinary permit from quarantine camp to destination)

- **Movements of cloven-hoofed livestock from the buffer zone without vaccination for direct slaughter only at designated abattoirs as in 2.10. are allowed (red cross permit) after:**
 - written approval by the relevant PEO(s) (except when within one SV area);
 - satisfactory inspection history;
 - inspection and mouth examination with negative results; and
 - temporary F-brand on all cattle to be moved.

No F-branded cattle are allowed to leave the buffer zone without vaccination for the free zone, except for direct slaughter at designated abattoirs as in A2.10. (red cross permit).

Movements of F-branded or FMD vaccinated cloven-hoofed livestock (except for direct slaughter) from the buffer zone without vaccination to the free zone, require the written approval of the NEO.

3.3.3.2. Products of cloven-hoofed livestock (cattle, goats, sheep and pigs)

To buffer zone without vaccination:

Movements of cloven-hoofed livestock products from the free zone to the buffer zone without vaccination are allowed (ordinary permit).

- For movements of cloven-hoofed livestock products from the infected or buffer zone with vaccination to the buffer zone without vaccination, see 1.2.3.2. and 2.2.3.2. respectively.

Within buffer zone without vaccination:

- Movements of cloven-hoofed livestock products within the buffer zone without vaccination are allowed (ordinary permit).

From buffer zone without vaccination:

- Carcasses, meat, hides, skins and offal of cloven-hoofed livestock originating from designated **abattoirs** as in 2.10. or from **butcheries** may be moved from the buffer zone without vaccination to any destination without a permit, if accompanied by a specific and valid invoice.

Carcasses, meat, hides, skins and offal of cloven-hoofed livestock **not** originating from designated abattoirs as in 2.10. or from butcheries may be moved from the buffer zone without vaccination to any destination (ordinary permit).

- Blood samples, sheath washings and any other fresh sample of cloven-hoofed livestock may be moved from the buffer zone without vaccination to approved laboratories only (ordinary permit).

3.3.3.3. Live cloven-hoofed game

Buffalo

- No FMD carrier buffalo are allowed in the buffer zone without vaccination.
- Buffalo other than FMD carrier buffalo may only be moved to farms registered for keeping buffalo (red cross permit).
- Registration numbers of buffalo farms of origin and destination must appear on the movement permit.

Buffalo movements are also subject to tuberculosis control.

For all buffalo movements see the Buffalo Protocol.

Cloven-hoofed game other than buffalo

To buffer zone without vaccination:

- Movements of cloven-hoofed game other than buffalo from the free zone to the buffer zone without vaccination are allowed (ordinary permit).
- For movements of cloven-hoofed game other than buffalo from the infected or buffer zone with vaccination to the buffer zone without vaccination, see 1.3.3.3. and 2.3.3.3. respectively.

Within buffer zone without vaccination:

- Movements of cloven-hoofed game other than buffalo within the buffer zone without vaccination are allowed (red cross permit), but only after written approval by the relevant PEO(s) if not within the same SV area.

From buffer zone without vaccination:

- Cloven-hoofed game other than buffalo may be moved from the buffer zone without vaccination to the infected zone or the buffer zone with vaccination (red cross permit), but only after written approval by the relevant PEO(s) if not within the same SV area.
- Cloven-hoofed game other than buffalo may be moved from the buffer zone without vaccination to the free zone only on the following conditions:
 - Written approval of the relevant PEO(s) if the movement is from one SV area to another;
 - All the animals must be quarantined in an approved quarantine camp in the buffer zone (red cross permit to quarantine camp);

- All the animals must be identified individually to the satisfaction of the SV;
 - All animals in quarantine must show negative serological results for FMD (all three SAT serotypes) at state cost after 21 days in quarantine (immobilisation at owner's cost);
 - In the case of clinical lesions detected during the quarantine period, all animals should be bled or rebled, and tissue (if possible) and probang samples taken and tested at state cost (immobilisation at owner's cost);
 - In case of positive results:
 - the seropositive animals must:
 - be removed immediately to the infected or buffer zone (red cross permit); or
 - be destroyed with the approval of the PEO;
 - the seronegative animals must be rebled and tested at state cost 21 days after removal of all of the sero-positive animals (immobilisation at owner's cost);

If all the animals in quarantine test seronegative and are declared negative by the SV, they may be moved after 21 days in quarantine to any destination with 30 days retention in a game-proof camp at destination (red cross permit).
 - It is advisable to bleed and test animals during capture, so that seropositive animals can be removed sooner. This however will be done at owner's cost and does not replace the bleeding after 21 days in quarantine.
- Cloven-hoofed game other than buffalo originating from the free zone that make use of quarantine or other holding facilities in the buffer zone without vaccination, attain buffer zone without vaccination status and will be handled as such.
 - Game other than buffalo may be moved from the buffer zone without vaccination to the infected zone or buffer zone with vaccination (red cross permit)

Movements of warthogs and bushpigs are also subject to the African Swine Fever Protocol.

Kudu, warthog, bushpig and eland movements are also subject to tuberculosis control, where applicable.

3.3.3.4. Products of cloven-hoofed game

To buffer zone without vaccination:

- Movements of cloven-hoofed game products from the free zone to the buffer zone without vaccination are allowed (ordinary permit).
- For movements of cloven-hoofed game products from the infected zone or buffer zone with vaccination to the buffer zone without vaccination, see 1.3.3.4. and 2.3.3.4. respectively

Within buffer zone without vaccination:

- Movements of cloven-hoofed game products within the buffer zone without vaccination are allowed (ordinary permit).

From buffer zone without vaccination:

- Cloven-hoofed game products originating directly from **farms** may be moved from the buffer zone without vaccination to any destination for own consumption (ordinary permit).
- Fresh venison and carcasses of cloven-hoofed game (*excluding that of warthogs and bushpigs*), eviscerated and without heads and feet, and biltong and dry sausages purchased from approved **butcheries**, may be moved for own consumption without a permit from the buffer zone without vaccination to any destination, if accompanied by a specific and valid invoice.
- Movements of cloven-hoofed game carcasses (*excluding those of warthogs and bushpigs*) from the buffer zone without vaccination to biltong factories, smoking plants or approved butcheries in the controlled area (red cross permit), intended for the trade but not for export, are allowed only after:
 - written approval by the relevant PEO(s) if not within the same SV area;
 - inspection of all heads and feet with negative results by a veterinary official; and
 - evisceration and removal of heads and feet.
- Blood samples or any other fresh sample may be moved from the buffer zone without vaccination to approved laboratories only (ordinary permit).
- Processed trophies originating from approved taxidermists may be moved from the buffer zone without vaccination without a permit to any destination, if accompanied by a specific and valid invoice.

Movements of products of warthogs and bushpigs are also subject to the African Swine Fever Protocol.

C4. FREE ZONE

4.1. DESCRIPTION OF THE EXTENT OF THE FREE ZONE

The free zone comprises the entire RSA excluding the infected and buffer zones. The free zone includes in some areas an inspection area adjacent to the buffer zone or neighbouring countries.

C5. INSPECTION AREA OF THE FREE ZONE

C5.1. DESCRIPTION OF THE EXTENT OF THE INSPECTION AREA OF THE FREE ZONE

For the exact description of the inspection area of the free zone according to *original farms, game reserves, magisterial districts, local and district municipalities and SV areas*, see annexure 1.

5.2. INSPECTION AREA OF THE FREE ZONE CONTROL PROTOCOL

5.2.1. Inspection

All cattle in the inspection area must be inspected every 28 days, except in the parts of the inspection area of the free zone exempted in terms of regulation 20 (4) of the Regulations by the NEO in consultation with the relevant PEO.

5.2.2. Vaccination

No routine vaccinations against FMD are allowed in the free zone.

5.2.3. Movements

There is no permit control for FMD control purposes over movements within the free zone, except for:

- buffalo movements (according to the Buffalo Protocol);
- movements of existing F branded cattle, only with permission of the relevant PEO;
- movements of live cloven-hoofed game from, within or to the inspection area of the free zone, unless exempted by the NEO in consultation with the relevant PEO.

The inspection area of the free zone should be exempted by the NEO from movement control over other animals and over products in terms of regulation 20 (4) of the Regulations.

For movements from the free zone to the infected or buffer zones, the movement control protocol under the zone of destination must be adhered to.

Movement of F-branded or FMD vaccinated cloven-hoofed livestock from the infected or buffer zone to the free zone (except for direct slaughter) requires the approval of the NEO in consultation with and on recommendation of the relevant PEO.

For movements from the infected, buffer or surveillance zones to the free zone, the movement control protocol under the zone of origin must be adhered to.

END

FIRST DRAFT OF FOOT-AND-MOUTH DISEASE CONTROL PROTOCOL OF 2003 was compiled on 2002-08-06 in Polokwane, Limpopo Province by Drs E Dyason, B J A Du Plessis, P J Geertsma and B O Rikhotso with inputs from Drs M K Mabunda and J J Jooste.

SECOND DRAFT OF FOOT-AND-MOUTH DISEASE CONTROL PROTOCOL OF 2003 was compiled after comments were received since sending out of the draft on 2002-08-06 as well as a result of discussions on the Interprovincial Veterinary Technical meeting in Pretoria on 9 and 10 September 2002.

THIRD DRAFT OF FOOT-AND-MOUTH DISEASE CONTROL PROTOCOL OF 2003 was compiled as a result of discussions on the meeting of the Foot-and-mouth disease Advisory Group of the Interprovincial Veterinary Working Group in Pretoria on 4 November 2002.

FIFTH DRAFT OF FOOT-AND-MOUTH DISEASE CONTROL PROTOCOL OF 2005 was compiled as a result of discussions on the meeting of the Foot-and-mouth disease Advisory Group of the Interprovincial Veterinary Working Group in Pretoria on 13 April 2005, as well as inputs received to date.

**Edited by Dr B J A Du Plessis
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