



November 2023

Monthly report on livestock disease trends as informally reported by veterinarians belonging to the Ruminant Veterinary Association of South Africa (RuVASA), a group of the South African Veterinary Association

Previous disease reports can be accessed on the RuVASA website (www.ruvasa.co.za)

These reports include data from individual practices

Click on Disease Reports

Click on the required dates of Disease Reports

The following practices and laboratories (144) submitted reports during November 2023:

Mpumalanga (13)

Bethal – Dr. Hardus Pieters
Ermelo – Dr. Ben Potgieter
Grootvlei – Dr. Neels van Wyk
Hendrina – Dr. Anja Steinberg
Lydenburg – Dr. Marietjie Malan
Lydenburg – Drs. Trümpelmann and Steyn
Malalane – Drs. Van Sittert and Van Sittert
Middelburg – Dr. Neil Fourie
Nelspruit – Dr. André Beytel
Piet Retief – Drs. Niebuhr and Weber
Standerton – Dr. Kobie Kroon
Standerton – Dr. Schalk van der Merwe
Volksrust – Dr. Johan Blaauw

Gauteng (14)

Afrivet Training Services – Dr. Danie Odendaal and Matthew Carter
Bapsfontein – Drs. Engelbrecht and Olivier
Bronkhorstspuit – Drs. De Bruin, De Bruin and Labuschagne
Hammanskraal – Dr. Hentie Engelbrecht
Irene (ARC) – Dr. Tinette van Wyk
Krugersdorp (Veeartsnetwerk) – Dr. Danie Odendaal
Magaliesburg – Dr. Ryan Jeffery
Muldersdrift – Drs. Speedy and Enslin
Nigel – Dr. Cindy van der Westhuizen
Nigel – Dr. Henry Labuschagne
Onderstepoort Veterinary Academic Hospital – Proff. Holm and Leask and Drs. Fitte, Grobler, Hentzen, Koepfel, Magadu, Magagula, Marufu, Mokoele, O'Dell, Tagwirreyi, Tshuma and Van den Hurk
Pretoria – Dr. Hanneke Pienaar
Rayton – Dr. Frans Malan

Vanderbijlpark – Dr. Kobus Kok

Limpopo (7)

Bela-Bela (Warmbaths) – Dr. Nele Sabbe

Bela-Bela – Drs. Du Toit, Bester, Herbst, Liebenberg , Bester and Sabbe

Modimolle – Drs. Van Niekerk and Te Brugge

Mokopane (Potgietersburg) – Dr. Henk Visser

Polokwane (Pietersburg) – Drs. Watson, Viljoen, Jansen van Vuuren, Van Rooyen, Snyman and Cremona

Tzaneen – ZZ2 Farm practice – Dr. Danie Odendaal

Vaalwater – Dr. Hampie van Staden

North West (12)

Beestekraal - Dr. Alwyn Venter

Brits – Drs. Boshoff and Coertze

Brits – Drs. Scheepers and Malan

Christiana – Dr. Pieter Nel

Klerksdorp – Drs. Van den Berg, Van den Berg, Van der Walt, and Greyling

Leeudoringstad – Dr. Ian Jonker

Lichtenburg – Dr. Nelmarie-Krüger-Rall

Potchefstroom – Dr. Martin Jordaan

Rustenburg – Drs. Grobler, Sparks, Stoffberg and Otterman

Schweizer-Reneke- Drs. Venter and Malte

Stella - Dr. Magdaleen Vosser

Vryburg – Dr. Marnus de Jager

Free State (26)

Bothaville – Dr. Gerrie Kemp

Bothaville – Dr. Tom Meyer

Bultfontein – Dr. Santjie Pieterse

Clocolan – Drs. Wasserman, Kleynhans and Boshoff

Dewetsdorp – Dr. Marike Badenhorst

Excelsior – Dr. Dédé Nel

Fauresmith – Staatsveearts – Dr. Nienke van Hasselt

Ficksburg – Dr. Woody Kotzé

Frankfort – Drs. Lessing, Cilliers and Janse van Rensburg

Harrismith – Drs. Cook, Korb and Olevano

Harrismith – Dr. Wim Slabber

Hoopstad – Dr. Cassie van der Walt

Koppies – Dr. Kobus Bester

Kroonstad – Drs. Daffue, Eksteen, Van Zyl and Van der Walt

Memel – Drs. Nixon and Nixon

Oranjeville - Dr. D'Wall Hauptfleisch

Parys – Drs. Wessels and Wessels

Reitz – Dr. Murray Smith

Senekal – Dr. Jan Blignaut

Smithfield – Dr. Nienke van Hasselt

Viljoenskroon – Dr. Johan Kahts

Villiers – Drs. Hattingh, Maree and Lourens

Vrede – Dr. Daleen Roos

Warden – Dr. Paul Reynolds

Wesselsbron – Dr. Johan Jacobs

Winburg – Drs. Alberyn and Albertyn

KwaZulu-Natal (11)

Bergville -Dr. Jubie Müller

Camperdown – Dr. Anthony van Tonder
Dundee – Drs. Marais and Fynn
Ixopo – Dr. Savannah Stutchbury (Howick group)
Kokstad (East Griqualand – Kokstad, Matatiele and Elliot)– Drs. Clowes, Lees, Malan, Koekemoer, Cronje and Kilian
Mooi River – Drs. Fowler and Graver
Mtubatuba – Dr. Trevor Viljoen
Paulpietersburg – Drs. Mahne and Du Toit
Pongola – Dr. Heinz Kohrs
Underberg – Drs. King, Delaney and Huysamer
Vryheid - Drs. Theron and Theron

Eastern Cape (16)

Adelaide – Dr. Steve Cockroft
Alexandria – Dr. Charlene Boy
Alexandria – Dr. Johan Olivier
Aliwal North – Dr. Freddie Strauss
Bathurst – Dr. Jane Pistorius
Elliot - Drs. Clowes, Lees, Malan, Koekemoer, Cronje, Kilian and Holyoake
Graaff- Reinet - Dr. Roland Larson
Graaff-Reinet – Drs. Hobson, Strydom and Hennesy
Grahamstown – Drs. Baxter, Hepplestone and Van Vuuren
Humansdorp – Drs. Van Niekerk, Jansen van Vuuren and Davis
Port Alfred – Dr. Leon de Bruyn
Queenstown – Drs. Du Preez, Klopper, De Klerk, Wentzel and Webster
Queenstown – Dr. Clara Blaeser
Steynsburg – Dr. Johan van Rooyen
Stutterheim – Dr. Dave Waterman
Uitenhage – Drs. Mulder and Krüger

Western Cape (24)

Beaufort West – Dr. Andri Oosthuizen
Caledon – Drs. Louw and Viljoen
Caledon – Drs. Small, Greyling and Viljoen
Darling – Drs. Van der Merwe, Adam, Jenkins and Lord
George – Drs. Strydom, Truter and Pettifer
George – Drs. Putter and Vermeulen
Heidelberg – Dr. Albert van Zyl
Malmesbury – Dr. Otto Kriek
Malmesbury – Drs. Heyns and Zolner
Malmesbury – Dr. Ida Glover
Moorreesburg – Dr. Suenette Kotzé
Oudtshoorn – Dr. Glen Carlisle
Oudtshoorn -Dr. Adriaan Olivier
Paarl – Dr. Carla van der Merwe
Piketberg – Dr. André van der Merwe
Plettenberg Bay – Dr. André Reitz
Riversdale – Drs. Du Plessis, Taylor and De Bruyn
Stellenbosch – Dr. Alfred Kidd
Swellendam – Drs. Malan and Fourie
Swellendam – Drs. De wet, Smit and Venter
Vredenburg – Dr. Izak Rust
Vredendal – Dr. Chris van Dijk
Wellington – Drs. Van Zyl and Louw
Worcester – Drs. De Wet and Rabe

Northern Cape (6)

Calvinia – Dr. Bertus Nel
De Aar – Dr. Donald Anderson
Kathu – Dr. Jan Vorster
Kimberley – State Vet Group (Colesberg, Daniëlskuil, Groblershoop, Kimberley, Kuruman, Postmasburg, Prieska, Upington)
Postmasburg – Dr. Boeta van der Merwe
Upington – Drs. Vorster, Visser and Oosthuizen

Feedlots (2)

Dr. Eben Du Preez
Drs. Morris, Morris and Barnard

Biosecurity consultant (1)

Bloemfontein - Dr. Theo Kotzé

Laboratory reports (12)

Dr. Adriaan Olivier – South African Ostrich Business Chamber
Dr. Marijke Henton - Vetdiagnostix, Johannesburg
Dr. Rick Last -Vetdiagnostix, South Africa
Dr. Annelize Jonker, Veterinary Tropical Disease Bacterial Laboratory, University of Pretoria
Dr. Liza du Plessis – Pathcare, Pretoria
Dr. Annelie Cloete – Western Cape, Provincial Veterinary Laboratory, Elsenburg, Stellenbosch
Dr. Bennie Grobler - University of Stellenbosch, Dept. of Animal Science
Dr. Mark Chimes – Dairy Standards, George
Dr. Hanri Bester-Cloete – Bloemfontein Provincial Veterinary Laboratory
Dr. Clara Blaeser, Queenstown Provincial Laboratory
Prof. Emily Mitchell – Wildlife, University of Pretoria
Me. Amanda McKenzie – Vryburg Veterinary Laboratory

Key message:

Code of best practice for Beef Farmers is available and should be studied and implemented

Red meat

[RPO-Code-of-Best-Practice-complete.pdf \(nahf.co.za\)](#)

[RPO-Kode-van-Beste-Praktyk-volledig.pdf \(nahf.co.za\)](#)

For the latest update on Foot and Mouth Disease visit:

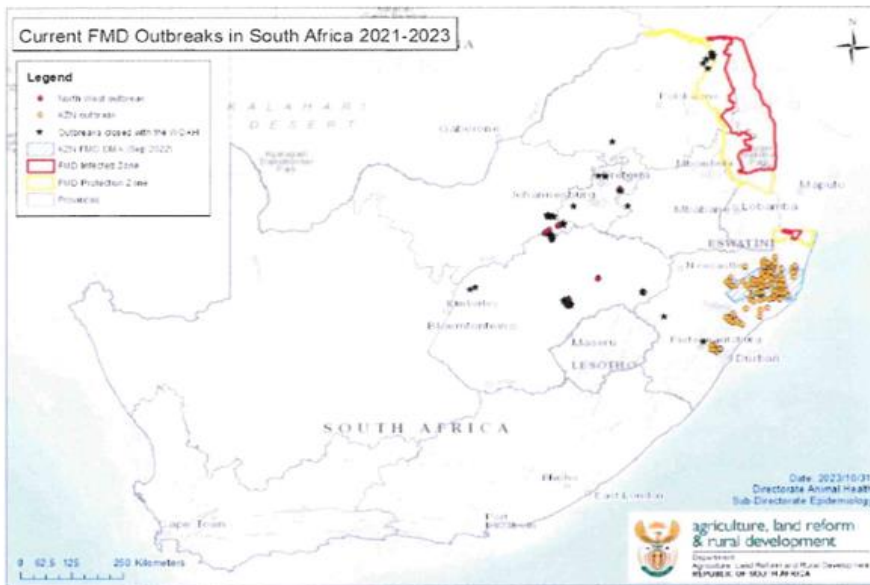
[2023-12-07-FMD-Outbreak-Technical-Report.pdf \(nahf.co.za\)](#)

Table 1: Summary of outbreaks per outbreak event and per Province:

Outbreak Event	Province	Number of open outbreaks	Number of resolved outbreaks	Total number of outbreaks	Start date of last reported outbreak
Outbreak event 1: KwaZulu-Natal – Free State	KZN	139	2	141	6 Oct 2023
	FS	2	2	4	26 Sep 2022
Outbreak event 2: Limpopo - Gauteng	LP	0	8	8	25 Apr 2022
	GP	0	2	2	30 Mar 2022
Outbreak event 3: North West – Gauteng – Mpumalanga – Free State	NW	7	11	18	22 Nov 2022
	GP	3	2	5	30 Aug 2022
	MP	0	1	1	2 Aug 2022
	FS	22	14	36	22 Sep 2022
Total		173	42	215	

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

Map 1: Reported outbreaks in the previous FMD free zone



7. Status summary and way forward

No cases of FMD were reported in the Eastern Cape Province, Northern Cape Province and Western Cape Provinces. These three Provinces remain FMD free without vaccination.


The single outbreak in Mpumalanga Province was resolved through slaughter out and the outbreak was closed with the WOAHA on 26 June 2023. Mpumalanga province has a legislated FMD protection zone, where routine vaccination is done in diptanks close to the FMD infected zone. The rest of the Mpumalanga Province is now regarded as free from FMD, without vaccination.

The outbreak event in Limpopo Province was resolved and closed with the WOAHA on 29 August 2023. Limpopo Province also has a legislated FMD protection zone, where routine vaccination is done in diptanks close to the FMD infected zone. The rest of the Limpopo Province is now regarded as free from FMD, without vaccination.

Free State Province, Gauteng Province and North West Province still have open outbreaks with the WOAHA, but there are no clinical or serological signs of virus circulation in these provinces for the past 12 or more months. The affected properties are well fenced, commercial breeding and stud farms, and the farms remain under quarantine. A representative number of animals on these farms are tested for FMD antibodies when a year has passed since the last vaccination. If the farms are seronegative, the outbreaks are regarded as resolved and closed with the WOAHA. Should any animals test positive on serology, further testing and

investigation are performed to confirm the absence of circulating FMD virus. The seropositive animals will remain under movement restriction, while quarantine on the farm may be lifted if there is evidence that there is no virus circulation.

In KwaZulu-Natal, Movement control is applied on affected diptanks and the control measures of the Disease Management Area are still in place. Clinical surveillance is ongoing in diptanks to ensure early detection of any disease. Vaccination is continuing in areas around infected game reserves and affected diptanks.



Director Animal Health
Date: 2023/12/07

Livestock Identification and Traceability System for South Africa

The government, in collaboration with the industry, has been in the process of developing a livestock identification and traceability system for the past few years. It encompasses the entire industry, from emerging to commercial producers, and aims to:

- Improve livestock disease control programs.
- To reduce the disruption of livestock marketing following disease outbreaks.
- Meet sanitary requirements of high-value export markets.
- Improve the competitiveness of the livestock sector.
- Increase equity for all players in the value chain.
- Improve confidence in South African livestock products.
- Accelerate access to accurate information to solve livestock theft cases.

- Improve the quality of livestock data.
- Improve the quality and reliability of genetic selection programs.

The aim is to phase in the system in stages:

- Phase 1 – registration of commercial producers (producers with a VAT number).
- Phase 2 – registration of all livestock owners per province.
- Phase 3 – registration of all other role players in the value chain.


Only commercial livestock producers will be allowed to register on the system for the first three weeks, after which the system will open to livestock owners and small farmers. It will take producers approximately 5 to 8 minutes to register, and the system can handle up to 4,500 registrations at a time.

1. Proof of address as the system will work on a FICA basis.
2. Company registration, trust registration, or ID document.
3. Brand Registration Certificate.
4. GPS coordinates of the farm.
5. Registration number of property with a land surveyor.
6. Your vet's information if you use one
7. Average number of animals on the farm - all sexes and ages

Start registering for the Livestock Identification and Traceability System (LITS SA)!!!

INFORMATION | LITS SA | OWNER REGISTRATION PROCESS SCHEMATIC | 2023


[Home](#) [Animal Identification and Traceability](#) [INFORMATION | LITS SA | OWNER REGISTRATION PROCESS SCHEMATIC | 2023](#)




LITS SA

Livestock Identification and Traceability System SA

COVID-19
Online Registration & Traceability Portal



NDP



health

Animal Identification and Traceability

Biosecurity

Controlled and Notifiable Diseases

DALRRD

Diseases

NAHF Members

Provinces

🔥 2,466

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<https://lits.csir.co.za/>


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<https://lits.csir.co.za/>

[Eartags used have to be certified by ICAR](#)

[RFID devices currently certified for conformance with ISO 11784/11785 \(icar.org\)](#)

Identification of every bovine (LITS or ICAR approved ID tag)

<https://www.icar.org/>

The International Committee for Animal Recording (ICAR) is an International Non-Governmental Organization (INGO) which was formed on March 9th, 1951, in Rome. Presently it is composed of 128 Members from 57 countries. ICAR strives to be the leading global provider of Guidelines, Standards and Certification for animal identification, animal recording and animal evaluation. ICAR wants to improve the profitability and sustainability of farm animal production by:

Establishing and maintaining guidelines and standards for best practice in all aspects of animal identification and recording.

Certifying equipment, and processes used in animal identification, recording and genetic evaluations. Stimulating and leading continuous improvement, innovation, research, knowledge development and knowledge exchange.

Providing services essential to achieving international collaboration in key aspects of animal recording and animal breeding.

[Spotlight on LITS-SA: Where do we stand and how will it work? \(agriorbit.com\)](#)

Compartmentalization

Compartmentalization is a concept developed by the **World Organization for Animal Health (OIE)** to enable international trade to continue in the event of a notifiable disease outbreak. Compartmentalization is separation by common management and biosecurity measurements while regionalization or zones are based on geography.

When supply is disrupted by trade barriers such as disease, the ability to meet demand becomes challenging. Keeping trade open through strategies such as Regionalization/Zones and Compartmentalization enables primary poultry breeders to provide notifiable disease assurances and maintain continuous supply of breeding stock required to help feed a growing global population.

An example in Poultry farming

Aviagen Leads the Way in Compartmentalization

As a result of excellent biosecurity standards, Aviagen has achieved compartment status for its facilities in the UK, US, Brazil, India, Colombia and Turkey. This means in the event of a disease

outbreak, chicks and eggs can be exported from approved locations to countries that recognize compartmentalization.

Compartmentalization is a concept developed by the World Organization for Animal Health (OIE) to enable international trade to continue in the event of a notifiable disease outbreak. Compartmentalization is separation by common management and biosecurity measurements while regionalization or zones are based on geography. Both have strictly controlled biosecurity and are important for international trade purposes.

Aviagen's facilities have been independently assessed and accredited by the Department for the Environment, Food and Rural Affairs (DEFRA) in the UK, the United States Department of Agriculture (USDA) in the US, the Ministry of Agriculture, Livestock and Supply (MAPA) in Brazil, The Turkish Ministry of Agriculture and Forestry in Turkey, Central Indian Government and State Government of Tamil Nadu in India and the Colombian Agricultural and Livestock Institute (ICA) in Colombia.

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CHAPTER 4.4.

ZONING AND COMPARTMENTALISATION

Article 4.4.1.

Introduction

The purpose of this chapter is to provide recommendations on the principles of zoning and compartmentalisation to Member Countries wishing to establish and maintain different subpopulations with specific health status within their territory. These principles should be applied in accordance with the relevant chapters of the Terrestrial Code. This chapter also outlines a process by which trading partners may recognise such subpopulations.

Establishing and maintaining a disease-free status throughout the country should be the final goal for Member Countries. However, given the difficulty of achieving this goal, there may be benefits to a Member Country in establishing and maintaining a subpopulation with a specific health status within its territory for the purposes of international trade or disease prevention or control. Subpopulations may be separated by natural or artificial geographical barriers or by the application of appropriate biosecurity management.

While zoning applies to an animal subpopulation defined primarily on a geographical basis, compartmentalisation applies to an animal subpopulation defined primarily by management and husbandry practices related to biosecurity. In practice, spatial considerations and appropriate management, including biosecurity plans, play important roles in the application of both concepts.

Zoning may encourage the more efficient use of resources within certain parts of a country. Compartmentalisation may allow the functional separation of a subpopulation from other domestic or wild animals through **biosecurity**, which would not be achieved through geographical separation. In a country where a disease is endemic, establishment of free zones may assist in the progressive control and eradication of the disease. To facilitate disease control and the continuation of trade following a disease outbreak in a previously free country or zone, zoning may allow a Member Country to **limit the extension of the disease to a defined restricted area**, while preserving the status of the remaining territory. For the same reasons, the use of compartmentalisation may allow a Member Country to take advantage of epidemiological links among subpopulations or common practices relating to biosecurity, despite diverse geographical locations.

A Member Country may thus have more than one zone or compartment within its territory.

Article 4.4.2.

General considerations

The Veterinary Services of a Member Country that is establishing a zone or compartment within its territory should clearly define the subpopulation in accordance with the **recommendations in the relevant chapters of the Terrestrial Code, including those on surveillance, on animal identification and animal traceability and on official control programmes.**

The procedures used to establish and maintain the specific animal health status of a zone or compartment depend on the epidemiology of the disease, including the presence and role of vectors and susceptible wildlife and environmental factors, on the animal production systems as well as on the application of biosecurity and sanitary measures, including movement control.

Biosecurity and surveillance are essential components of zoning and compartmentalisation, and should be developed through **active cooperation between industry and Veterinary Services.**

The Veterinary Services, including laboratories, should be established and should operate in accordance with Chapters 3.2. and 3.3., to provide confidence in the integrity of the zone or compartment. **The final authority over the zone or compartment, for the purposes of domestic and international trade, lies with the Veterinary Authority.** The Veterinary Authority should conduct an assessment of the resources needed and available to establish and maintain a zone or compartment. These include the human and financial resources and the technical capability of the Veterinary

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Chapter 4.4.- Zoning and compartmentalisation

Services and of the relevant industry and production system (especially in the case of a compartment), including for surveillance, diagnosis and, when appropriate, vaccination, treatment and protection against vectors. In the context of **maintaining the animal health status** of a population or subpopulation of a country, zone or compartment, **importations** into the country as well as **movements** of animals and their **products**, and **fomites**, into the zones or compartments should be the subject of appropriate **sanitary measures and biosecurity.**

The Veterinary Services should provide **movement certification**, when necessary, and carry out documented periodic

inspections of facilities, biosecurity, records and surveillance procedures. Veterinary Services should conduct or audit surveillance, reporting, laboratory diagnostic examinations and, when relevant, vaccination.

The production sector's responsibilities include, in consultation with the Veterinary Services if appropriate, the application of biosecurity, documenting and recording movements of commodities and personnel, managing quality assurance schemes, documenting the implementation of corrective actions, conducting surveillance, rapid reporting and maintenance of records in a readily accessible form.

Article 4.4.3.

Principles for defining and establishing a zone or compartment

The following principles apply when Member Countries define a zone or a compartment.

- 1) The **extent of a zone** and its geographical limits should be established by the Veterinary Authority on the basis of natural, artificial or legal boundaries, and made public through official channels.
- 2) The **factors defining a compartment** should be established by the Veterinary Authority on the basis of relevant criteria such as management and husbandry practices related to biosecurity, and communicated to the relevant operators through official channels.

3) Animals and herds or flocks belonging to subpopulations of zones or compartments should be recognisable as such through a clear epidemiological separation from other animals and all factors presenting a risk. The measures taken to ensure the **identification of the subpopulation** and to establish and maintain its health status through a biosecurity plan should be documented in detail.

These measures should be appropriate to the particular circumstances, and depend on the epidemiology of the disease, environmental factors, the health status of animals in adjacent areas, applicable biosecurity (including movement controls, use of natural, artificial or legal boundaries, spatial separation of animals, control of fomites, and commercial management and husbandry practices), and surveillance.

4) Relevant commodities within the zone or compartment should be identified in such a way that their **movements are traceable**. Depending on the system of production, identification may be done at the herd or flock or individual animal level. Relevant movements of commodities into and out of the zone or compartment should be well documented and controlled. The **existence of an animal identification system is a prerequisite to assess the integrity of the zone or compartment**.

5) For a compartment, the **biosecurity plan** should describe the partnership between the relevant industry and the Veterinary Authority, and their respective responsibilities. It should also describe the **standard operating procedures to provide clear evidence that the surveillance conducted, the animal identification and traceability system, and the management and husbandry practices are adequate** to meet the definition of the compartment. In addition to information on controls of movements of relevant commodities, the plan should include herd or flock **production records, feed, water and bedding sources, surveillance results, birth and death records, visitor logbook, morbidity and mortality history and investigations, medications, vaccinations, documentation of training of relevant personnel and any other criteria necessary for evaluation of risk management**. The information required may vary in accordance with the species and diseases under consideration. The biosecurity plan should also describe how the measures will be **audited** to ensure that the risks are being managed and regularly reassessed, and the measures adjusted accordingly.

Articles 4.4.4. to 4.4.7. describe different types of zones that can be established by Member Countries. However, **other types of zones may be established for the purposes of disease control or trade**.

Article 4.4.4.

Free zone

A free zone is one in which the absence of a specific infection or infestation in an animal population has been demonstrated in accordance with the relevant requirements of the Terrestrial Code.

Chapter 4.4.- Zoning and compartmentalisation

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In conjunction with Articles 4.4.2. and 4.4.3., and depending on the prevailing epidemiological situation, the attainment or maintenance of free status may require past or ongoing specific surveillance and vector surveillance, as well as appropriate biosecurity and sanitary measures, within the zone and at its borders. The surveillance should be conducted in accordance with Chapter 1.4. and the relevant chapters of the Terrestrial Code.

The free status can apply to one or more susceptible animal species populations, domestic or wild.

So long as an ongoing surveillance demonstrates there is no occurrence of the specific infection or infestation, and principles determined for its definition and establishment are respected, the zone maintains its free status.

Article 4.4.5.

Infected zone

An infected zone is one either in which an infection or infestation has been confirmed, or that is defined as such in the relevant chapters of the Terrestrial Code.

An infected zone in which an infection or infestation has been confirmed may be:

- 1) a zone of a country where the infection or infestation is present and has not yet been eradicated, while other zones of the country may be free; or
- 2) a zone of a previously free country or zone, in which the infection or infestation has been introduced or reintroduced, while the rest of the country or zone remains unaffected.

To gain free status in an infected zone, or regain free status following an outbreak in a previously free zone, Member Countries should follow the recommendations in the relevant chapters of the Terrestrial Code.

Article 4.4.6.

Protection zone

A protection zone may be established to preserve the animal health status of an animal population in a free country or a free zone by preventing the introduction of a pathogenic agent of a specific infection or infestation from neighbouring countries or zones of different animal health status.

A protection zone may be established as a temporary measure in response to an increased risk of disease. In such case, it may be maintained up to 24 months.

The protection zone can be established within or outside a free zone or within a free country. Based on the results of a risk assessment, more than one protection zone may be established.

Biosecurity and sanitary measures should be implemented in the protection zone on the basis of the animal management systems, the epidemiology of the disease under consideration and the epidemiological situation prevailing in the neighbouring infected countries or zones.

In addition to the general considerations in Article 4.4.2. and the principles in Article 4.4.3., these measures should include intensified movement control, animal identification and animal traceability to ensure that animals in the protection zone are clearly distinguishable from other populations.

Vaccination of susceptible animals in accordance with Chapter 4.18. may also be applied.

Increased surveillance, in accordance with Chapter 1.4. and the relevant disease-specific chapter, should be implemented in the protection zone and the rest of the country or zone, including surveillance of wildlife and vectors as relevant.

If the animal health status of an established protection zone changes owing to the occurrence of a case, the animal health status of the rest of the country or zone is not affected, provided the measures in place prevent the spread of disease and allow the subsequent establishment of a containment zone in accordance with the criteria in Article 4.4.7.

Unless otherwise specified in the relevant disease-specific chapters of the Terrestrial Code, if the animal health status of an established protection zone changes because of vaccination, the animal health status of the rest of the country or zone is not affected.

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Chapter 4.4.- Zoning and compartmentalisation

Regarding diseases for which the OIE grants official recognition of animal health status:

– a protection zone is considered as effectively established when the conditions described in this article and in the relevant disease-specific chapters have been applied and documented evidence has been submitted to and accepted by the OIE;

– if a Member wishes to make the protection zone permanent, the process for official recognition by the OIE should be followed in accordance with Chapter 1.6. and the relevant disease-specific chapters.

Article 4.4.7.

Containment zone

1) In the event of outbreaks in a country or zone previously free from a disease, a containment zone, which includes all epidemiologically linked outbreaks, may be established to minimise the impact on the rest of the country or zone.

2) A containment zone is an infected zone that should be managed in such a way that commodities for international trade can be shown to have originated from either inside or outside the containment zone.

3) Establishment of a containment zone should be based on a rapid response, prepared in a contingency plan, that includes:

– appropriate control of movement of animals and other commodities upon declaration of suspicion of the specified disease;

– epidemiological investigation (trace-back, trace-forward) after confirmation of infection or infestation, demonstrating that the outbreaks are epidemiologically related and all are contained within the defined boundaries of the containment zone;

– a stamping-out policy or another effective emergency control strategy aimed at eradicating the disease;

– animal identification of the susceptible population within the containment zone, enabling its recognition as belonging to the containment zone;

– increased passive and targeted surveillance in accordance with Chapter 1.4. in the rest of the country or zone, demonstrating no occurrence of infection or infestation;

– biosecurity and sanitary measures, including ongoing surveillance and control of the movement of animals, other commodities and fomites within and from the containment zone, consistent with the listed disease-specific chapter, when there is one, to prevent spread of the infection or infestation from the containment zone to the rest of the country or zone.

4) A containment zone is considered to be effectively established when the following is demonstrated, unless

otherwise specified in the disease-specific chapter:

EITHER

a) there have been no new cases in the containment zone within a minimum of two incubation periods from the disposal of the last detected case;

OR

b) it comprises an inner zone where cases may continue to occur and an outer zone where no outbreaks have occurred for at least two incubation periods after the control measures above have been put in place and which separates the inner zone from the rest of the country or zone.

5) The free status of the areas outside the containment zone is suspended pending the effective establishment of the containment zone. Once the containment zone has been established, the areas outside the containment zone regain free status.

6) The free status of the containment zone should be regained in accordance with the relevant listed disease-specific chapters or, if there are none, with Article 1.4.6.

7) In the event of an occurrence of a case of the infection or infestation for which the containment zone was established, either in the containment zone described in point 4(a) or in the outer zone where no outbreaks had occurred as described in point 4(b), the rest of the country or zone loses its free status.

Article 4.4.8.

Bilateral recognition of country or zone status by trading countries

While the OIE has procedures for official recognition of status for a number of infections (refer to Chapter 1.6.), for other infections or infestations, countries may recognise each other's status through a bilateral process. Trading partners should exchange information allowing the recognition of different subpopulations within their respective territories. This

Chapter 4.4.- Zoning and compartmentalisation

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recognition process is best implemented through establishing parameters and gaining agreement on the necessary measures prior to outbreaks of disease.

The Veterinary Services of an exporting country should be able to explain to the Veterinary Services of an importing country the basis for claiming a specific animal health status for a given zone or compartment under consideration.

The exporting country should be able to demonstrate, through detailed documentation provided to the importing country, that it has implemented the recommendations in the Terrestrial Code for establishing and maintaining such a zone or compartment.

In accordance with Chapter 5.3., an importing country should recognise the existence of this zone or compartment when the appropriate measures recommended in the Terrestrial Code are applied and the Veterinary Authority of the exporting country is able to demonstrate that this is the case.

NB: FIRST ADOPTED IN 1998; MOST RECENT UPDATE ADOPTED IN 2021.

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Chapter 4.4.- Zoning and compartmentalisation

Movement control

Identification of clinical disease signs

Isolation of diseased animals

Demand a vendor's declaration when animals are bought

Quarantine animals that are bought for 28 days

Strictly follow your herd management programme that is regularly updated in consultation with your veterinarian

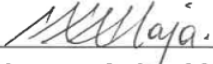
The ultimate goal is to form a disease free (Brucellosis, Foot and mouth disease, Trichomonas) compartment of your farm

See what the pig farmers have achieved regarding African Swine Fever

<https://www.woah.org/app/uploads/2021/10/asf-compartmentalisationguidelines-en.pdf>

FOOT AND MOUTH DISEASE

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


Director Animal Health
Date: 2023-03-28

Foot and Mouth Disease Emergency Plan

Health management actions to be taken if a case of foot and mouth disease is suspected on your farm. This Emergency Plan must be discussed with your herd veterinarian and adapted for the situation on your farm.

Foot and Mouth Disease Emergency Plan.

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Phases	Description	Time-line	Outcome
Phase 1	Trained herdsman observes suspicious signs of FMD during structured daily observation	Day 1	Animal/s must be brought to closest handling facility within that camp.
Phase 2	Trained herdsman examines affected animal/s and send findings and photos to the manager and veterinarian	Day 1	Two possible outcomes based on the results of the observation and subsequent examination: The absence of lesions consistent with FMD – the herd will be monitored daily. A possible case of FMD is confirmed based on the visible lesions and the State veterinarian must immediately be informed to collect samples for laboratory confirmation
Phase 3	If a possible case of FMD is suspected during examination of the herd, the animal must be isolated (quarantined) and other herds on the farm or adjacent farms must be moved at least 1km away from this isolated herd.	Day 2 to 7	Can take 1 day or more to get a veterinarian to take the samples and then also up to 1 week before the results of the tests are available.
Phase 4	If a possible case of FMD is confirmed by laboratory results this	< than 30 days	Two possible outcomes based on the laboratory confirmation tests:

<p>herd must now be managed over the long term (plan for up to a maximum of 3 months) in such a way that the disease is not transmitted to other herds on the same or adjacent farms.</p>	<p>Tests are negative and the isolated herd is closely monitored for another 3 weeks until the quarantine is lifted. Tests are positive confirming the case of FMD and the herd is kept as an isolated herd on a longer term basis – the follow up action (vaccination to slaughter or direct slaughter after recovery from the disease under a red cross permit at the closest approved abattoir)</p>
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Procedures

Phase 1

Observation of signs of disease consistent with Foot and Mouth (FMD) disease by the herdsman.

In case where a herdsman observes signs of disease that is consistent with a suspected case of FMD he must report it immediately to the manager.

The manager must identify the location of the herds and other herds in the vicinity on a map for further fast reaction (e.g. moving other herds away from the possible infected herd) if needed.

The herdsman stays with the animal/s and gets it to the closest handling facility for examination.

Phase 2.

Examination of suspected FMD case after observation of typical signs of disease.

The herdsman then proceeds to examine the feet and the inside of the mouth of the affected animal as per training.

If there are any lesions, the herdsman must take photos and a video to send to the manager.

If the herdsman can't manage the taking of the photos and/or don't have a cell phone with a camera, he must be assisted by a manager.

The manager that arrives must stop at a place well away of the kraal, wear an overall and gumboots and must not physically handle the animal/s but just observe the examination by the herdsman and take photos that must be send to the consulting veterinarian with the history of the case and the number of animals affected.

If lesions are found during the examination that is consisted with the lesions caused by FMD, the herd must be handled as a positive FMD herd.

The affected animal/s must stay separated from the herd until feedback by the consulting veterinarian.

The herdsman must not handle other healthy animals in this herd after examination of the affected animal/s

Depending on the findings of the examination, the consulting veterinarian will give advice on further actions to be taken.

If the lesions observed are not consistent with FMD, the herd will be managed as normal with increased focus on daily observation and reporting.

If the lesions are consistent with FMD, all precautions described will be taken as this herd is now treated as positive for FMD until the results from laboratory testing are available.

The person that came to assist must then go back to the vehicle and before getting into the vehicle pour disinfectant in a bucket with water at the right dilution (or use a 5-liter container with already made-up disinfectant). Disinfect hands and take the boots and overall off and put normal clothes on. Wash (scrub with a hard brush to remove dung and dirt) and disinfect the boots, put the overall in a bucket and wet it with disinfectant, and then wash and disinfect hands and arms. This person can then go straight home and shower. Overalls can be washed as usual.

The herdsman, that examined the affected cattle can wash and disinfect his boots (not at or in the watering trough) before leaving the camp to go to his house.

The outside of rubber boots can be washed (scrubbed) and disinfected again at home and overall can be put in a bucket with diluted disinfectant for 1 hour before washing it.

Although the carrier state of the FMD disease virus is not transferrable to other people, it is advisable that the herdsman must not come into close contact with any other person that also works with animals on the same or other farms.

Phase 3.

After informing the state veterinarian to come and take samples for laboratory testing for FMD.

The state veterinarian/technician must immediately be contacted (the contact numbers must be ready and available in order for the manager to call immediately).

Ensure that the state veterinarian/technician come to collect the samples within a maximum period of 2 days after reporting the possible case.

Manager to follow up on the results of the laboratory tests on a daily basis – it can be expected that the test results will be available in a maximum period of 5 days.

Herds within 1 km from the possible affected herd on the farm and adjacent farms must be moved away to be at least 1km away from the herd that is now isolated (quarantined).

Only the herdsman that examined the animals initially, will tend to and handle animals in the herd and follow the procedure as described above when leaving the herd every day.

The first function of the herdsman will be to check the fences of the camp in which the cattle are to ensure that no cattle can get out of this camp and that all gates leading to or through this camp are locked.

The herdsman must also assess the grazing and give feedback to the manager regarding the grazing days left in this camp for future planning during Phase 4.

Phase 4.

Manage the herd that test positive on the laboratory confirmation tests.

If a possible case of FMD is confirmed by laboratory results, this herd must now be managed over the long term (plan for up to maximum 3 months) in such a way that the disease is not transmitted to other herds on the same or adjacent farms.

The herd is kept as an isolated herd and the management during the next 3-4 weeks is of utmost importance because that will be the period when most animals in the same herd will be infected and then they will also recover when immunity develop. The highest risk of transmission is when the animals start showing signs of FMD until they recover 2-3 weeks later.

The follow up action will be determined and directed by the State veterinarian (vaccination to slaughter or direct slaughter after recovery from the disease under a Red Cross permit at the closest approved abattoir).

Compiled by Dr. Danie Odendaal

**STOP ILLEGAL MOVEMENT OF
CATTLE!!!!!!!!!!!!!!**

The reason for the foot and mouth outbreaks in South Africa all had to do with the illegal movement of cattle out of the FMD controlled zones in Limpopo.

Owners of motor vehicles are legally bound to have number plates on their vehicles, similarly all cattle have to be branded with a registered mark to prove ownership and in future cattle will be identified with a ICAR approved RFID ear tag.

SAFEGUARD YOUR HERDS TO AVOID THE SPREAD OF FOOT AND MOUTH DISEASE

- Abide by all veterinary movement restrictions.
- Know the health status of the animals you are investing in.
- Only buy animals that originate from known and proven sources.
- Insist on a veterinary health declaration before animals are brought onto the farm.
- If in doubt, request a health attestation from the seller's veterinarian.
- Keep the new arrivals to your farm separate from your own animals for at least 28 days, and until you are satisfied that they are healthy.



SAFEGUARD YOUR HERDS TO AVOID THE SPREAD OF FOOT AND MOUTH DISEASE

- Do not move animals showing signs of disease.
- Do not buy animals from unknown origins.
- Do not buy animals originating from known infected areas.
- Improve biosecurity on your farm to protect your animals from diseases coming onto the farm and avoid nose-to-nose contact with the neighbour's cattle.
- Avoid buying animals from live auctions where animals have gathered from many different origins, especially if not intended for immediate slaughter.



Important development in the beef industry:

PRESS RELEASE

LIVESTOCK PRODUCERS DO GROUNDWORK FOR A TRACEABILITY SYSTEM IN THE INDUSTRY

“International trade partners and consumers increasingly insist on a traceability system in the livestock industries and it has also become necessary in terms of market access, whether locally or internationally,” says Mr James Faber, chairman of the national RPO.

“The need for traceability systems has now become imperative because of the outbreak of Foot and Mouth Disease (FMD),” Faber said.

The Department of Agriculture, Land Reform and Rural Development (DALRRD), in cooperation with the livestock industries already made significant progress with the development of a LITS system (Livestock Identification and Traceability system).

The CSIR developed the system and the testing phase is currently taking place in the FMD endemic areas.

Although work is continuously being done in terms of the LITS system with the involvement of the industries, it will take a long time to implement it comprehensively.

“The need to kickstart with a practical voluntary system has become of critical importance,” according to Mr Faber.

On the initiative of the RPO, representatives of the livestock industries and private service providers recently convened with the aim of commencing with a practical voluntary system.

The initiative will initially focus on individual animal identification with unique ear tag numbers and will be urgently implemented in the cattle- and small stock industries. The numbers will also be linked with the detail of the owner and the farm. Producers will make use of private service providers who are already delivering services and will also pay for the services themselves.

It is envisaged that commercial producers will participate on a voluntary basis and the state will take responsibility for the implementation of a system in the developing sector. The livestock industries will in collaboration with the private service providers establish criteria which must be adhered to in order to render the system functional.

It will be imperative that the information systems of the private service providers be integrable with the LITS system.

However, producers must ensure that service providers comply with ICAR (International Centre of Animal Registration). Criteria which service providers will have to fulfil will soon be finalised and announced.

“The implementing of the systems will pave the way for the establishment of a complete traceability system in collaboration with the state in the future. Producers participating in the system, should insist on a premium,” says Mr Faber.

The implementing of the system enjoys the full support of the state and will most likely lead to a private/public partnership (PPP). The initiative will be driven by the primary red meat cluster consisting of the RPO, NERPO, SA Feedlot Association and the Red Meat Abattoir Association.

DATE : 21 April 2022

ENQUIRIES :

Mr Dewald Olivier Mr Gerhard Schutte

SA Feedlot Association Red Meat Producers' Organisation

Cell: 082 800 3737 Cell: 082 556 7296

Email: exec@safedlot.co.za Email: gerhard@rpo.co.za

Dr Gerhard Neethling Mr James Faber

Red Meat Abattoir Association Red Meat Producers' Organisation

cell: 082 551 7232 Cell: 083 292 2556

Email: manager@rmaa.co.za Email: james@glenross.co.za

For detailed reports and maps visit www.ruvasa.co.za and on the toolbar click on Disease reporting

Bovine Brucellosis

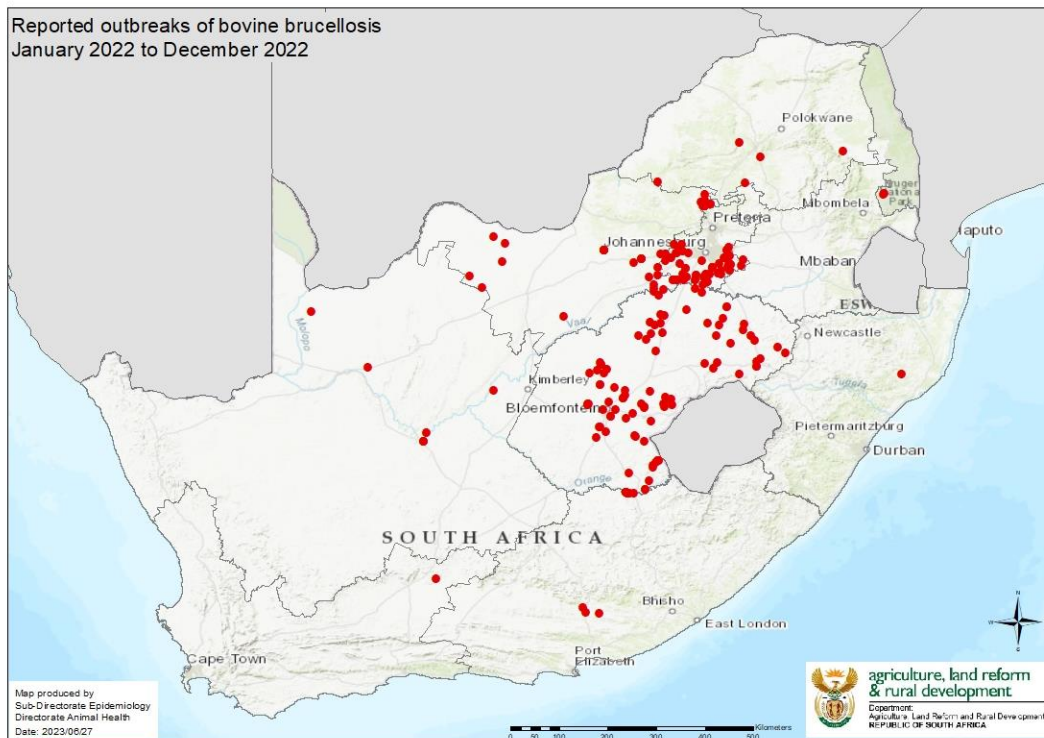
Brucellosis is still a huge problem!!!!!! Vaccinate your heifers between the age of 4 to 8 months with Strain 19 and RB 51 in non-pregnant animals. Contact your veterinarian to test your herd.

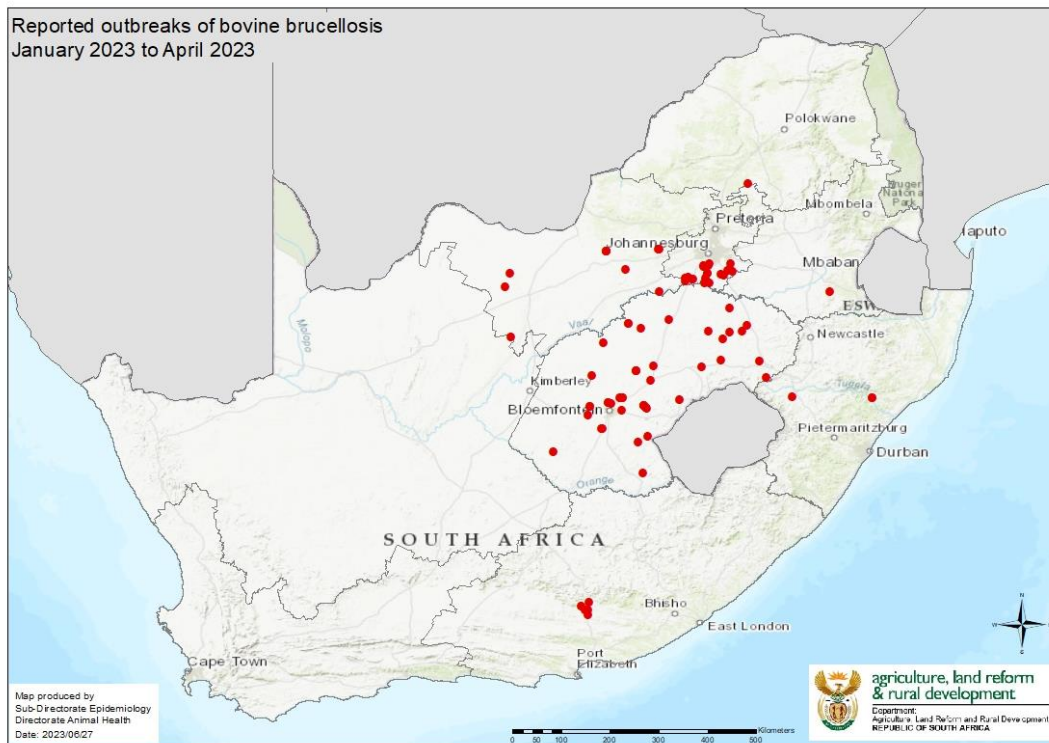
Strain 19 vaccine manufactured by Onderstepoort Biological Products and Design Biologix

RB 51 is available through MSD

Visit www.nahf.co.za and click on Info-centre for details on this HERD disease!

Bovine brucellosis is a herd disease, if one animal tests positive in a herd, the herd is regarded as being positive for bovine brucellosis





“Bovine Brucellosis – Outbreaks are mostly due to our own fault”

Again, new outbreaks of brucellosis are reported! When will we be able to say that we are winning the battle?

Brucellosis destroyed my life and this could happen to you too!

Dr. Frans Banting, a veterinarian who was infected with brucellosis nearly 40 years ago, tells his story and hopefully this will help all of us realize how devastating this disease is; and that we all have to stand together to eradicate brucellosis. It is each farmer's responsibility to stop the spread of this disease.

Dr. Banting's story:

Disease in cattle

The disease Bovine Brucellosis is also known as Contagious Abortion (CA) and in Afrikaans as “Besmetlike Misgeboorte (BM)”. Brucellosis is a herd disease, if an animal is tested positive in a herd, the whole herd is considered to be infected.

The disease is caused by a bacterium (pathogen) *Brucella abortus bovis*. Infected cows and pregnant heifers usually remain life-long carriers of the bacteria; spreading (excreting) the bacteria over many years. The udder and uterus are the most important organs that are infected. Blood and muscle tissue can also be infectious for a short period. Transmission by this means is very rare in humans.

Production losses occur as animals that test positive for brucellosis are slaughtered.

Additional financial losses are due to:

Cost of an abortion

Cost of perinatal mortality

Cost of temporary infertility

Increased calving intervals
Cost of replacement of dairy cows
Cost of replacement of bulls
Cost due to mortality of sero-positive cows
Milk and meat production loss
Veterinary costs

(Information provided by Dr.Chris van Dijk, dairyvetza@outlook.com)

Clinical signs of infected cattle

Pregnant cows and heifers which are infected for the first time, having no resistance (immunity) to the disease, usually abort at 4 to 7 months of pregnancy. Such a fetus is usually hairless and about 30 to 40 cm in length. Calves that are stillborn may also be found in a herd. Weak calves can be born. Infected cows may abort for a second time. Retained afterbirths usually occur.

Temporary infertility after an abortion as well as mastitis may occur. Chronic cases may develop a swelling of the knee (hygroma). Cows that are carriers of the *Brucella* bacteria may show no clinical signs of the disease and could still calf annually and spread the disease to the rest of the herd. Bulls may also become infected.

Brucellosis in humans

In humans, brucellosis, is a zoonotic disease i.e., a disease spread from animals to humans. The disease is known as Undulant fever or Malta fever. Undulant fever is caused by *Brucella abortus bovis* and Malta fever by *Brucella melitensis* which occurs in goats.

Transmission

Humans are infected through one of the following ways:

Intake of infected raw milk, ice cream, butter or cheese

Ingestion or handling of infected raw or underdone meat, biltong or meat products. The risk is very small as the *Brucella* bacteria dislike dry, warm conditions. If an animal is slaughtered at an abattoir and hung (pH drop), then the risk is negligible.

Through contact or handling of an infected still born or infected calf, uterine fluid, afterbirth or bull string. The chance of infection when helping a cow during a difficult calving or removing a dead calf, is a reality!

Through pricking yourself with a syringe needle when vaccinating animals with Strain 19 or RB 51. Accidental contact of mucous membranes (eyes and mouth and open wounds) with the vaccine through aerosol transmission or breakages, could be disastrous to the farmer and personnel.

To summarize, if infected material is consumed (unpasteurised milk, meat, meat products, biltong) or if the bacteria/live vaccine comes into contact with mucous membranes (uterine fluid or fluid from infected calf) a person may become infected with brucellosis. Such an infection may enter the body through the eye, mouth, nasal cavity or skin.

Symptoms

The writer of this article was infected with brucellosis about 40 years ago. About two weeks after the infection took place, the first acute attack started.

Fever

A very high fever with profuse sweating occurred especially during the night. It felt as though his whole body was glowing. The worst attacks occurred from 22h00 to 01h00 the next morning. During the period from 07h00 to 14h00, the fever usually subsided.

Muscular pain

The pain was due to infection and was prominent in calf and thigh muscles

Arthritis and painful, swollen joints especially of the knees and hands.

Headaches

This is not a normal headache, but a sudden and serious stabbing headache within a localized area. It does not remain for a long period, but feels as if a long nail is driven into your skull. It disappears usually within a minute or might only last a few seconds.

Fatigue

An indescribable fatigue is often present. It often lasts for long periods -anything from one week to 6 months.

Weakness and muscular weakness. This weakness may be so bad that a person may not be able to work.

Weight loss and chronic diarrhoea

An affected person could lose 3 to 10 kg body weight within weeks.

Depression

Loss of interest in life. Such an attack can last for a few days or up to months.

Insomnia:

Waking during the night (especially between 22h00 and 24h00), one cannot sleep or one has a poor sleeping pattern.

Appetite

Strangely, appetite is not affected

The above listed symptoms are often confused with flu and therefore a correct diagnosis, in many cases, is not made in time. Most acute cases disappear within a month or two, A large percentage of cases develop a chronic (long lasting) infection with roughly the following symptoms:

Muscle and joint pain

Severe fatigue develops with a typical pattern. During the morning and early afternoon, the person feels normal. From about 15h00 to late at night fatigue sets in. This pattern repeats itself and may last for months or years.

Muscular weakness. A normal life is often not possible.

Treatment

If the disease is diagnosed and treated at an early stage, the patient could recover from the disease. Diagnosis is confirmed by means of a positive blood test. Unfortunately, many physicians do not recognize this disease or have insufficient knowledge of the disease and a correct diagnosis is not made.

Brucellosis is treated by giving numerous antibiotics as well as anti-inflammatory drugs, pain killers and multi-vitamins to patients. Antibiotics are given per mouth for 3 to 4 months while intra-venous drugs are given for five successive days with a drip containing nutrients. In chronic cases the treatment is repeated if typical symptoms of the disease are seen. If infection is due to contact with the RB 51 vaccine, the infection cannot be discovered with the ordinary blood-test and the infection does not react to the ordinary treatment. Contact your medical doctor if you suspect you got infected through contact with the RB 51 vaccine.

Consequences

In serious cases it might be necessary to give the patient sick leave for an extended period. It may even be the best for the patient to retire or change his/her occupation. Brucellosis has its consequence and could change a person's entire life!

Prevention

Brucellosis is a State Controlled Disease. Cattle are tested by taking a blood sample from an animal and sending the samples to an accredited laboratory. If it is suspected that brucellosis is present in a herd, the following procedure is followed:

Test all animals on the farm over 18 months of age. All positive animals have to be branded with a C on the neck, isolated and sent for slaughter as soon as possible (under cover of a Red Cross Permit) to an accredited abattoir. The farm will be quarantined. The herd is tested every two months until two negative tests are obtained. The test is repeated after six months and then annually thereafter.

If adult cows are bought, they should be tested before they are introduced into the herd.

Use the available registered brucellosis vaccines, Strain 19 or RB 51, according to prescribed instructions on the packet insert.

When buying animals, get a vendor's declaration that these animals are from a brucellosis negative accredited herd. Quarantine them and test them again. Heifers should be kept separate until they have calved. Heifers should be tested from 4-5 months pregnancy and then again after calving.

Humans

Never handle suspected infectious material such as fetuses, dead calves, live weak calves or afterbirths without gloves or eye protection.

Do not drink raw milk from an unknown, untested source.

Remember: A brucellosis infected heifer, cow, dead calf or raw milk from a positive herd is a TIME BOMB which can alter your life dramatically or destroy it totally!

Written by: Dr. Frans Banting, Veterinarian and translated by Drs. Faffa Malan, Veterinarian (dokfaffa@nashuaisp.co.za) and Sewellyn Davey (sewellynd@gmail.com)

Although we have made positive steps in controlling Bovine brucellosis, the model disease stated in the Veterinary Strategy, we as a country is far from achieving our goal!

If farmers will just comply by vaccinating their animals against brucellosis, according to law, the incidence of brucellosis will drop dramatically as shedding of bacteria will drop!

Many farmers are still shrugging their shoulders and saying: "Why should I test my animals as it will only cost me money and what if there are positive animals? My farm will be placed under quarantine, so I am not going to test my animals!"

Dr Trudie Prinsloo a veterinarian and legal advisor has compiled legal aspects regarding brucellosis control and it is VERY IMPORTANT that you should avail yourself with the content of this document.

It is available in English and Afrikaans.

<http://nahf.co.za/brucellosis-legal-aspects-2018-12-11/>

VENDOR DECLARATION BOVINE BRUCELLOSIS

I hereby declare that I am the legal owner or authorised representative of the cattle on sale and am competent to make this declaration:

1	The cattle for sale are clearly and permanently identified		Yes	No
2	The cattle for sale/slaughter were born on my farm		Yes	No
3	The farm has a closed herd policy i.e. I do not buy in cattle, rent out grazing or speculate with cattle		Yes	No
4	I practice bio-security on my farm to a level that is **	Poor	Moderate	Good
5	I vaccinate my heifer calves against Bovine Brucellosis once between the ages of 4 – 8 months		Yes	No
6	In addition, I vaccinate my cattle older than 8 months with RB51		Yes	No
7	I have all the cattle on my farm tested for Bovine Brucellosis		Yes (date)	No
8	My herd has been tested negative within the past year		Yes	No
9	I did not buy in cattle since my last negative brucellosis test		Yes	No
10	I/my vet investigates any abortions on my farm		Yes	No
11	To the best of my knowledge, my immediate neighbours and farms in my area are free of Bovine Brucellosis		Yes	No
12	I use a veterinarian to advise me on my cattle's herd health		Yes	No
13	The cattle handling facilities on my farm are	Poor	Average	Good

Note: Vaccination does not mean freedom from Bovine Brucellosis as cattle can still be carriers
Please attach the most recent *Brucella* blood test certificate

Owner or authorised representative:

Signature:

Date:

**** * Biosecurity**

Poor – speculates with cattle, does not vaccinate, poor fences, cattle come into contact with other cattle

Medium – Vaccinates heifers, does not buy in cattle of unknown health status

Good – closed herd/never buys in cattle, vaccinates heifers and no contact with other cattle, follows a herd health plan as advised by his veterinarian, does not allow transport trucks onto property, washes and disinfects truck after returning from the abattoir or auction grounds.

Compiled by: Dr. Sewellyn Davey, Past Chairman of the Brucellosis Steering committee of the National Animal Health Forum

BOVINE BRUCELLOSIS IS A HERD DISEASE

If one animal is found to be positive for bovine brucellosis, the entire herd is regarded as being positive. The State Veterinarian should take responsibility for controlling and eradicating the disease from the farm.

SOP for the control of Bovine Brucellosis

Audit date: _____

Authorised person: _____

		Y/N	Comment
1	Fences and gates in good condition		
2	Gate control - log in		
3	Disinfection of vehicles coming onto the farm		
4	Protective clothing and boots given to people visiting the farm (cattle area) coming from high- risk areas eg. veterinarians, nutritionists, representatives, truck drivers, workers, etc.		
5	Sterilizing equipment coming in contact with cattle		
6	Run off water/ streams from neighboring farms		
7	All animals identified with a brand mark and ear tag		
8	Data base of all animals		
9	Closed herd		
10	When last were animals bought in or moved from another farm?		
11	Only buy in animals from a farm which has a recent negative tested brucellosis herd certificate		
12	Origin(s) of acquired cattle? Bought at an auction?		

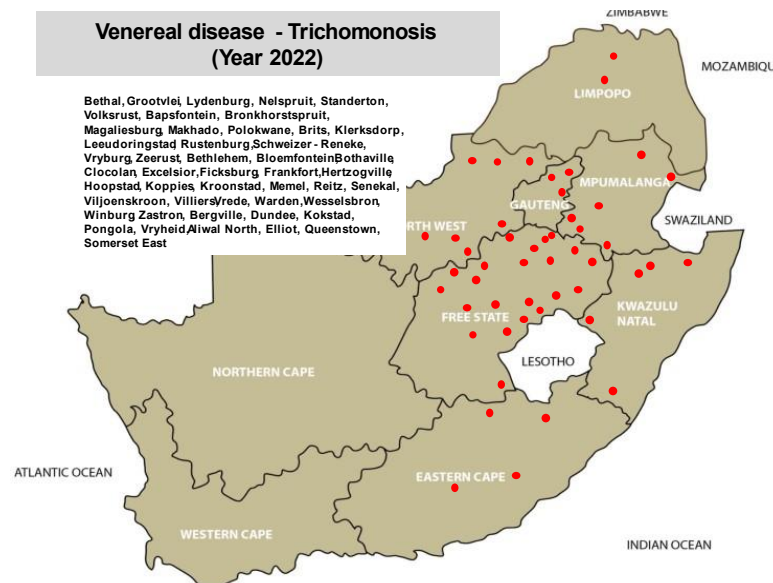
13	Keep heifers separate from herd until they have calved and tested negative for brucellosis		
14	Quarantine camp available		
15	Separate calving camps		
16	Were all heifers vaccinated between 4 and 8 months vaccinated with Strain 19 or RB51?		
17	Any cattle vaccinated with Strain 19 over 8 months of age? History over last few years.		
18	Were there any abortions on the farm – samples taken, diagnosis?		
19	All sexually mature cattle in herd tested for bovine brucellosis (provide proof)		
20	Bovine brucellosis is a State controlled disease. Positive cattle are branded with a C on the right side of the neck.		
21	Isolation of infected animals & separate handling facilities		
22	Prohibition of movement of animals off quarantined property except under cover of a Red cross permit for slaughter at an abattoir		
23	Prohibition of use and on-farm disposal of un-boiled, un-pasteurised or un-sterilised milk on quarantined property		
24	Disinfection of places where infection is a possibility.		
25	Neighbors/ recent buyers informed of infected herd status		
26	Fly, crow and predator control		
27	Destruction of afterbirths/abortions in a responsible manner		
28	Beware of livestock, game interface		

Trichomoniasis

Test your bulls for Trichomonosis and Vibriosis as these two venereal diseases can ruin your future!

HAVE YOU ORDERED YOUR VACCINES? Discuss your management program with your veterinarian!

Visit the link for all the disease maps and detailed reports www.ruvasa.co.za



<https://ruvasa.co.za/disease-report-2022/>

To assess your risk, talk to your local veterinarian and update your vaccination and holistic parasite management program. It is important to study what diseases are prevalent in your area and to determine your risk. Take the necessary steps in time, as from experience it is seen that vaccine availability during an outbreak could be a huge problem. If vaccines are not available, insect and tick control are even more of importance.

Shows have been opened again after the COVID epidemic and due to the presence of diseases in South Africa, strict biosecurity protocols should be practiced at all times! If animals are taken back to the farm from shows, quarantine these animals for 28 days and observe them twice daily before allowing them into the herd again

Visit the National Animal Health Forum’s website regularly where updates on animal health are posted (www.nahf.co.za).

www.nahf.co.za

Click on Info centre

Click on Diseases

When last did you study the Veterinary Strategy??

<https://nahf.co.za/wp-content/uploads/Vet-strategy-final-signed.pdf>

Summary of disease report for November 2023

Reports from veterinary practices and laboratories (144) were received from Mpumalanga (MP) 13; Gauteng (G) 14; Limpopo (L) 7; North West (NW) 12; Free State (FS) 25; KwaZulu-Natal (KZN) 11; Eastern Cape (EC) 16; Western Cape (WC) 24; Northern Cape (NC) 6; Feedlots (FL) 2; Biosecurity (BC) 1 and Laboratories and others (Lab) 12

Study this list – these are the most widely spread diseases as well as other conditions as reported by veterinarians, and determine your risk in collaboration with your veterinarian.

A list of diseases and conditions reported by veterinarians in 5 or more provinces

Study the table above and determine your risk with your veterinarian and take the necessary preventative measures!

Diseases and other conditions	Provinces
Roundworms	9
Tapeworms	9
Bont-legged ticks	9
Diarrhoea	9
Eye infections	9
Lung infection	9
Dystocia (difficult births)	9
Uterine prolapse	9
Vaginal prolapse	9
Diseases and other conditions	
Diseases and other conditions	Provinces
Resistant roundworms	8
Wireworm	8
Coccidiosis	8
African red water	8
Blackquarter	8
E. coli	8
Orf	8
Diseases and other conditions	
Diseases and other conditions	Provinces
Cryptosporidiosis	7
Blue ticks	7
Midges	7
Asiatic red water	7
Anaplasmosis	7
Pulpy kidney	7
Warts	7
Ringworm	7
Energy deficiency	7
Selenium deficiency	7
Abortions	7
Bloat	7
Downer	7
Diseases and other conditions	
Diseases and other conditions	Provinces
Conical fluke worms	6
Heartwater ticks	6
Brown ear-ticks	6
Nuisance flies	6
Nasal bot	6
Heart water	6
Blood gut (sheep)	6

Protein deficiency	6
Blindness	6
Joint ill	6
Metritis	6
Retained afterbirth	6
Diseases and other conditions	Provinces
Biting lice	5
Sweating sickness	5
Ephemeral fever (Thee-day-Stiff sickness)	5
Blue tongue	5
Vibriosis	5
Rota virus	5
Tulip poisoning	5
Calcium deficiency	5
Copper deficiency	5
Bladder stones (urolithiasis)	5
Eye cancer	5
Trauma	5
Ketosis (Domsiekte)	5
Milk fever	5
Endometritis	5
Lightning	5
Drought	5
Theft	5
Trauma (fractures)	5
Biting lice	5
Sweating sickness	5

Pneumonia occurred in animals in all 9 provinces. Excellent vaccines against organisms causing pneumonia are available and your veterinarian can advise you on the use of these vaccines.

Tick and biting fly numbers increased due to increased temperatures and humidity and as a result the occurrence of tick and insect transmitted diseases such as African and Asiatic red water, Heartwater and Anaplasmosis were recorded.

Internal parasites, causing production loss and mortalities to production animals were reported from most areas where good rainfall occurred in previous months. Wireworm infestations, resistant to most anthelmintic groups, caused great losses to small stock!

Insect transmitted diseases such as Lumpy skin disease, Three Day Stiff Sickness, and Blue Tongue were reported. A new vaccine against Blue tongue was registered and is available.

Bull testing reports were received and Trichomonosis and Vibriosis are still a huge problem, leading to poor conception rates.

Losses due to protein and energy deficiencies were reported. Veld fires destroyed huge grazing areas and animal losses were reported. Decisions should be taken to sell animals in time, should there be insufficient grazing during the coming months.

Make sure that sufficient protein and energy sources are supplemented.

Increase in the number of downer animals are reported due to poor quality food available to cattle.

Biosecurity measures should be kept in place at all times! Foot and Mouth disease, Bovine Brucellosis, Trichomonosis, Cryptosporidiosis and BMC (snotsiekte) are some of the diseases that farmers should constantly be aware of.

Now is the time that farmers should sit down with their veterinarian to update management programmes – vaccinations, breeding, biosecurity and nutrition.

Make farmers aware of the LITS system and assist them with the registration of their farms.
LEKKER BOER!!!!

OVINE JOHNE'S DISEASE VENDOR DECLARATION

ON THE SALE OF SHEEP

(Updated Draft May 2015)

- | | | | |
|--|--|-----|----|
| 1. I hereby declare that I am the owner or authorised representative of the sheep on sale and am competent to make this declaration. | <table border="1" style="display: inline-table;"> <tr> <td style="width: 40px; text-align: center;">YES</td> <td style="width: 40px; text-align: center;">NO</td> </tr> </table> | YES | NO |
| YES | NO | | |
| 2. The sheep for sale are clearly identified in the accompanying description. | <table border="1" style="display: inline-table;"> <tr> <td style="width: 40px; text-align: center;">YES</td> <td style="width: 40px; text-align: center;">NO</td> </tr> </table> | YES | NO |
| YES | NO | | |
| 3. The sheep for sale were born on my farm. | <table border="1" style="display: inline-table;"> <tr> <td style="width: 40px; text-align: center;">YES</td> <td style="width: 40px; text-align: center;">NO</td> </tr> </table> | YES | NO |
| YES | NO | | |
| 4. The farm has a closed flock policy. (No live sheep are brought onto the farm from elsewhere) | <table border="1" style="display: inline-table;"> <tr> <td style="width: 40px; text-align: center;">YES</td> <td style="width: 40px; text-align: center;">NO</td> </tr> </table> | YES | NO |
| YES | NO | | |
| 5. I know the signs of the disease and to the best of my knowledge, all of my properties are free of cases of Ovine Johne's Disease. | <table border="1" style="display: inline-table;"> <tr> <td style="width: 40px; text-align: center;">YES</td> <td style="width: 40px; text-align: center;">NO</td> </tr> </table> | YES | NO |
| YES | NO | | |
| 6. I have actively looked for Ovine Johne's Disease and have had tests done for this. | <table border="1" style="display: inline-table;"> <tr> <td style="width: 40px; text-align: center;">YES</td> <td style="width: 40px; text-align: center;">NO</td> </tr> </table> | YES | NO |
| YES | NO | | |
| 7. To the best of my knowledge, my immediate neighbours and farms in my magisterial district of my farm(s) are free of cases of Ovine Johne's Disease. | <table border="1" style="display: inline-table;"> <tr> <td style="width: 40px; text-align: center;">YES</td> <td style="width: 40px; text-align: center;">NO</td> </tr> </table> | YES | NO |
| YES | NO | | |

- | | | | |
|--|--|-----|-------|
| 8. The sheep on my properties have been vaccinated against Ovine Johne's Disease and are clearly marked with the approved ear tag. | <table border="1" style="display: inline-table;"> <tr> <td style="width: 40px; text-align: center;">YES</td> <td style="width: 40px; text-align: center;">NO</td> </tr> </table> | YES | NO |
| YES | NO | | |
| 9. All lambs born are vaccinated | <table border="1" style="display: inline-table;"> <tr> <td style="width: 40px; text-align: center;">YES</td> <td style="width: 40px; text-align: center;">NO</td> </tr> </table> | YES | NO |
| YES | NO | | |
| 10. If vaccinated, the number of years that the vaccinations have been done is | <table border="1" style="display: inline-table;"> <tr> <td style="width: 40px; height: 20px;"></td> <td style="width: 40px; text-align: center;">years</td> </tr> </table> | | years |
| | years | | |

NOTE: Vaccination does not mean freedom from OJD, vaccinated animals can still be carriers.
Statement 8 and 9 apply only to already infected flocks, and such sheep can only be sold to other infected flocks by law.
Buyers should consult their veterinary advisor before any purchases.

Signature _____

Date _____

NAME _____

Farm: _____

District: _____

OWNER OR AUTHORIZED REPRESENTATIVE

The use of this declaration is supported by the following organisations:



Websites that are there to assist you with information regarding animal health:

National Animal Health Forum

www.nahf.co.za

Read what the Forum is all about:

<http://nahf.co.za/about/>

This website will become the information centre of animal health in Southern Africa.

On the toolbar click on **Stakeholders** and you will find links to producer organizations and other organizations who are participating in the NAHF

<http://nahf.co.za/stakeholders/>

Provincial Animal Health Forums have their own site – click on **Provinces** <http://nahf.co.za/provinces/>

Important is to study the Veterinary Strategy (2016 -2026) as it gives direction to where we are going with Animal Health in South Africa.

<http://nahf.co.za/wp-content/uploads/Vet-strategy-final-signed.pdf>

Click on **Info centre** for more information on the “war” we have against Bovine Brucellosis. Please be up to date on the role all have to play to control this zoonotic disease.

<http://nahf.co.za/category/diseases/brucellosis/>

Information on other controlled diseases (Foot and Mouth Disease, Ovine Johne’s Disease, Pest of small stock – PPR, and African Horse Sickness) is available.

This link will continuously be updated.

Information on **antibiotic resistance** is also available at this address: <http://nahf.co.za/category/antibiotic-resistance/>

Rural Veterinary Association of South Africa

www.ruvasa.co.za

Click on **Disease reporting** where maps and information can be sourced on the prevalence of diseases in all provinces. Abattoir reports are available. Use the information available to update management programmes

Internal parasite control

www.wormx.info

Farm gates, Fences and Foresight, the 3 F’s!

Bear this in mind as this is where most disease-causing organisms enter or exit farms!

Major examples are: Foot and mouth disease, brucellosis, Johne’s disease, TB, cryptosporidiosis, trichomonosis, vibriosis, sheep scab, resistant parasites such as red lice, blue ticks and internal parasites (Buyer beware programmes).

Coccidiosis	x	x		x	x	x	x	x	x
Cryptosporidiosis	x	x		x	x	x	x	x	
Sarcosporidium									
<i>Giardia</i>									

Wireworm outbreaks were reported from 8 provinces.

BEWARE

A farm has been found where the wireworm strain on the farm is resistant to ALL active de-wormer groups

Check the eye mucous membrane colour of a group of sheep in all flocks weekly! Bottle jaws and pale eye mucous membranes are indications that deaths are just around the corner!

Get advice from your veterinarian to ascertain which de-wormer group(s) are still effective on your farm by doing a faecal egg count resistance test (FECRT). Visit www.wormx.info for training material.

The following table was received from Dr. Camilla Paterson (CamillaP@dalrrd.gov.za) from Act 36 of 1947 on 20 October 2022.

THE CODING OF ANTHELMINTICS

GROUP CODE	GENERIC CLASS OF ACTIVES	EXAMPLES OF ACTIVE INGREDIENTS
1.	Macrocyclic lactones	Avermectins
		Ivermectin
		Abamectin
		Doramectin
		Eprinomectin
		Selamectin
		Milbemycins
		Moxidectin
		Milbemycin oxime
2.	Benzimidazoles	Fenbendazole
		Flubendazole
		Albendazole

		Mebendazole
		Oxfendazole
		Oxibendazole
		Netobimin
		Triclabendazole
		Ricobendazole
3.	Imidothiazoles	Levamisole
4.	Salicylanilides	Closantel
		Niclosamide
		Oxyclosanide
		Rafoxanide
		Brationide
		Clixanide
5.	Nitrophenols	Nitroxinyl
		Disophenol
		Hexachlorophene
		Meniclofolan
		Niclofolan
6.	Sulphonamides	Clorsulon
7.	Organophosphors	Trichlorfon
		Dichlorvos
8.	Isoquinolones	Praziquantel
9.	Spiroindole	Derquantel (added after table compiled)
10.	Amino-acetonitrile	Monepantel (added after table compiled)
11.	Others	Piperazines companion animals
		Bunamidine
		Epsiprantel
		Nitroscanate companion animals

Check the number(s), codes on the labels of the worm remedies. Faecal egg count reduction tests (FECRT) should be done to determine which actives should be used on your farm for worm control. Worm resistance is a huge problem on many farms in South Africa.

Visit www.wormx.info for valuable information on parasite control!

Beware of liver fluke and conical fluke outbreaks when animals are grazing in wet areas where the intermediate hosts, water snails, are abundant.

Coccidiosis outbreaks were reported from 8 provinces. Young animals are most susceptible.

Cryptosporidiosis outbreaks, causing huge losses were reported from 7 provinces. Good colostrum in sufficient protects new born animals. Biosecurity should be practised at all levels on the farm.

https://www.google.co.za/search?hl=en&tbm=isch&source=hp&biw=1344&bih=608&ei=PyxyXOO7OcutkwXinK3oCA&q=cryptosporidium+parvum&oq=Cryptosporidium&gs_l=img.1.1.0110.2885.9850..16402...0.0..0.708.5719.2-4j4j3j2j1.....0....1..gws-wiz-img....0.o66yefU7Ric

Prevention of Cryptosporidiosis

Prevention is the best control method.

Animals with a well-developed immune system will generally overcome *Cryptosporidium* thus this should be the main aim in controlling *Cryptosporidium*.

A consistent, vet approved and farm appropriate vaccination program for other diseases.

Ensure no nutritional deficiencies especially vitamin A and Selenium

Excellent bio-security management

Ensure clean pathogen free water sources

Hygiene training of personnel

Consult your veterinarian

SOLUTION

HOLISTIC INTERNAL PARASITE MANAGEMENT FOR SHEEP AND GOATS

Gareth Bath, Jan van Wyk and Faffa Malan

INTRODUCTION

Over the past ten to fifteen years there has been a radical rethink on our previous worm control strategies and assumptions due to the ever-accelerating failure of anthelmintics globally. This has caused a quiet but drastic revolution in many of the “received wisdoms” which governed advice to farmers for close to a century.

For a start, we have to abandon the underlying philosophy that internal parasites are an evil plague which should be maximally suppressed, or preferably eradicated. We have to learn to live with parasites, and prevent only the unacceptable production losses, while simultaneously breeding animals fit for the environment, rather than making the environment fit for existing animals. By regarding parasites as part of the natural order of things, we will be able to see them simply as potential problems to be managed in order to achieve optimum productivity and profitability.

Only well integrated, holistic planning has a long-term chance of success, and unless all elements of our potential armamentarium are harnessed, the results will not match the expectations.

While this paper applies to helminths, and mainly nematodes, the parallels and inferences which can be made for ectoparasites, and indeed other organisms, should be obvious.

WORM MANAGEMENT PRINCIPLES

A FLOCK MANAGEMENT REQUIREMENTS

Separation of Groups

Since different classes of animals vary in their susceptibility to worm infection and its effects, they should be separated into groups, which are grazed, treated and managed as distinct entities. If these distinctions are not made one may be forced to treat the flock according to the most susceptible group. The most susceptible groups can still be managed and treated more intensively in a mixed flock, but this becomes more difficult.

Identify the groups most at risk

Research has shown that the more susceptible animals are lambs/weanlings; and pregnant/lactating ewes. The former is susceptible because they cannot yet mount an effective immune response to infection, the latter are prone to infection because of a temporary suppression of immunity. (PPRR). These groups must get special attention.

Separation of pastures

Unless pastures can be divided by fencing or herding, all sheep will be exposed to a similar challenge, regardless of whether they are susceptible or resistant to infection and its effects. This will prevent any differentiation in management and treatment. Division of pastures is not only good for internal parasite control; it also aids pasture management. Electric fences can be used as temporary pasturage dividers. In communally farmed areas, herding or tethering can achieve the same result without fencing.

Resting of pastures

If pastures can be separated, it is then possible to rest them effectively, which has decided advantages to pasture management and improvement. If such pastures can be rested long enough, this will also have a significant effect on the survival of worm larvae and therefore the infection rate of the flock. Although the time needed for effective resting of pastures will vary with the climate, weather and worm species, a useful rule of thumb for effective resting is at least 3 months in subtropical for temperate climates, but as little as 1 month in the tropics. The longer the rest, the better it is for worm management.

Alternation of host species

Sheep and goats share the same worm species and alternation with one another is ineffective for worm management. However, other species like cattle, horses and ostriches are generally not susceptible to the worms of sheep and goats. If they are used to graze pastures before or after sheep or goats, they act as "vacuum cleaners" on the pasture, as they ingest many larvae which cannot develop further into egg-laying adults. The other advantage is that the pasture can still be utilised in its growing season, which prevents the grass from becoming senescent, and optimises its usefulness. This aids in maintaining the profitability of the farm.

Mend water leaks

Water points (troughs, windmills) should not be allowed to leak, as this encourages the growth of grass. Since this is where sheep concentrate, the area can become lethally contaminated by larvae.

Avoid grass in pens

Where sheep or goats have to be penned for lengthy periods (usually at night, to combat theft or predation) there can be a fatal buildup of larvae on the grass growing there. Sheep become hungry overnight and will eat these morsels of food. In consequence they will ingest massive numbers of larvae. It is therefore necessary to remove all grass from such pens.

Fence off moist areas

Areas particularly prone to high moisture and therefore the survival of worm larvae, like streams and marshes, should be separated to reduce the challenge of the flock.

Strategic movement of flocks

The aim should be to create "safe" (not necessarily "worm free") pastures. By planning changes in camps or paddocks, stock will be subject to lower challenges and need less chemical treatment. Any grazing system where a significant proportion of the pasture is rested for a full growing season will be particularly effective.

Quarantine and treatment

Do not simply introduce purchased animals into the flock or herd. They must be quarantined in a worm-unfriendly pen (bare earth or concrete) and treated intensively using the best drugs and schedule. If financially feasible, do an FECRT to ensure minimum carry-over of drug-resistant parasites. Then place them on infected pasture if there is no multiple resistance.

B GENETIC SELECTION

Selection for resistance

Resistance (the acquired or innate ability to prevent or minimize infection by parasites) is heritable and can be selected for, by measuring the faecal egg counts and using only those sheep with the lowest FEC's for breeding. For practical and economic reasons, this is usually only done for rams. Some successful breeding programs have been undertaken but they require good organisation and meticulous record keeping. Culling of bad ewes and their offspring is also practical and recommended.

Selection for resilience

Resilience (the ability to withstand the effects of infection and produce satisfactorily in spite of it) is also heritable. At present, only two proven methods, FAMACHA[®] and Haematocrit determination exist, although preliminary results suggest that Body Condition Scoring may also be useful. The FAMACHA[®] System can be used only where wireworm is the major parasite. By treating according to clinical anaemia (an indicator of poor resilience), only those sheep unable to cope with wireworm are treated. This reduces selection pressure for anthelmintic resistance and at the same time allows the farmer to cull the non-copers, in the long term thus being able to breed an animal better adapted to the environment.

It is also possible to select rams by a system of allocation of selection indexes. This is currently under investigation and will require measuring individual ram FECs and FAMACHA[®] scores (or haematocrits) to make the measurement more accurate.

C MONITORING SYSTEMS

FEC

Regular (monthly or 2 - monthly) monitoring of faecal egg counts on a group or flock basis will help to indicate when dosing is really needed, and equally important, when it can be delayed or even omitted. A bulk (composite) FEC comprising a single count of faeces pooled from equal samples from 10 to 20 sheep is certainly cheaper than dosing the whole flock unnecessarily. Keep graphs or tables of changes to indicate when parasite buildup is likely.

FECRT

Every farmer should have the flock tested for drug resistance in the worm population on his farm, at regular intervals of not less than two years. Only by knowing exactly what the state of anthelmintic resistance on a farm is, can appropriate action be taken. Generalisation such as "benzimidazole resistance is found on most farms" are not much use since they cannot tell us what the situation is on a particular farm. Just as important, we must know not only that resistance is present, but also how bad it is. Can we still use the drug group at all? Separate bulk faecal samples from each drug group will reduce the cost to acceptable levels.

FAMACHA® evaluation

Apart from selection and culling, this system also allows frequent, cheap and easy monitoring of the current situation as regards worm infection, but applies only to haemonchosis.

D OPTIMISE ANTHELMINTIC USE

Establish the important parasites species present

Unless the prevalence and importance of worm species is known, worm management becomes dangerous and unpredictable guesswork. It can also be ineffective and very costly.

Use the most suitable drug

If the parasites are ranked in order of economic importance and their susceptibility to groups of anthelmintics is known and combined with knowledge on the anthelmintic resistance situation on the farm, it is then possible to decide which drug(s) and formulations will be the most suitable in each situation. This includes their cost and a cost/benefit analysis. Neither the cheapest nor the most expensive drug is necessarily the best one to use. Beware of generic drugs sold by an unknown company.

Avoid too frequent treatment

The old approach of "dosing clean" must be completely abandoned, although not by reducing the dosage rate per animal. The aim has to be to treat only sufficient times and enough individual animals to maintain the equilibrium between parasite, host and environment (that is, worm management). Over-treatment ensures that only resistant parasites can survive. Minimal treatment programs must be the new watchword, but it must be ensured that every treatment is effective.

Treat all and stay

This is a major departure from the recommendations made for close to a century. If **all** sheep are to be treated, they should remain in the camp (paddock) where they were grazing before treatment. This will prevent sheep from contaminating a new pasture with only those resistant parasites which survived treatment, thus in the process unwittingly causing the selection for resistance parasites. In most cases they should remain in the paddock for at least 2-3 weeks after treatment to pick up unselected larvae for propagation of the susceptible worms in the new camp/paddock. However, should a long-acting anthelmintic be used, this period will have to be longer (2 to 3 weeks after the effective residual action ends). Particularly bolus (slow release) formulations should be used with great caution.

Treat selectively

It is preferable to treat only those sheep or goats unable to cope with the current infection challenge, provided the percentage of non-copers remains below 20%. This can be done with the FAMACHA[®] system for haemonchosis, or possibly with Body Condition Scoring for other parasites. If clinically unaffected animals are left untreated, an immediate move to new pasture will not be detrimental. In the absence of such selective treatment, just leaving a small percentage (10-25%) of the flock intentionally untreated can be beneficial to slow AR development.

Move then treat

Another way of achieving the same result as "treat all and stay" is to move the flock to a new "safe" pasture and delay treatment for 2-3 weeks, to allow the seeding of the new pasture with unselected worms, before treating the flock.

Herbal Remedies

These are often touted as the answer to worm control. However, unless they have been properly tested and proven by an independent body, they may be useless or even harmful.

E IMPROVED ANTHELMINTIC EFFICACY

Dose over the tongue

By placing the tip of the gun towards the back of the mouth, over the tongue, closure of the oesophageal groove does not occur and thus the full dose lands in the rumen where it is absorbed more slowly - this is particularly important for anthelmintic groups which rely on prolonged blood levels for their effect, like the benzimidazoles and macrocyclic lactones.

This prolonged level of activity (a long so-called "killing zone") means that the drug against which worms have developed a moderate degree of resistance can be made more effective, although of course the resistance of the worms is not reduced, but rather partially overcome. However, dosing (drenching) over the tongue, if done carelessly, can result in two very severe consequences:

the dose can land up the lungs, and cause pneumonia

the nozzle of the dosing gun can penetrate the pharynx and cause severe, fatal infection.

If the sheep jumps forward, the operator must let the gun 'ride' with the sheep, and not oppose it, and the dose must be delivered by a measured, steady pressure rather than a single squeeze.

Reduce feed intake

It has been shown in the case of benzimidazoles and closantel that reducing feed intake (i.e. starvation) for 24 hours prior to treatment will improve the absorption of the remedy because of the lower rate of flow of ingesta. As in the previous case, this results in a more effective exposure of the parasite to the drug.

In turn, this means that the drug is clinically more effective and can partially overcome drug resistance.

Repeat the dose

This only applies to benzimidazoles and macrocyclic lactones. Two doses given 12 hours apart will again increase the “killing zone” of these drugs, allowing more time for a cumulative killing effect. Thus, resistant worms can still be killed, although this is achieved at a cost since two normal doses rather than one are needed. A double dose, given at one time, will have **no** beneficial effect with these two groups of anthelmintics.

Increase the dose

This only applies to drugs which rely mainly on peak concentrations for their effect. In this case, a double amount of drug given at one time can overcome drug resistance in worms. This is useful for the imidasothiazoles (levamisole). There is however a relatively low safety margin, only 2x – 3x the therapeutic dose may sometimes cause problems of toxicity.

Correct dosage

It may seem too obvious, but a lot of problems are caused by not weighing sheep, not calibrating and checking the dosing gun for accuracy and repeatability, and not reconciling the amount of drug used with the number of sheep treated. Underdosing may be a factor leading to anthelmintic resistance, but it is more likely to be the cause of ineffective treatment.

Drug combinations

Combining drugs from different activity groups in one dose may temporarily improve the effective clinical action of these drugs, but only if each drug concerned is unaffected by resistance. However, many authorities believe that this will not slow the development of resistance and could even enhance it. If drugs are mixed, this can only be done if the formulation has been fully tested and carried by experts, in registered products. Home-made combinations are dangerous and illegal. Such combinations often just give temporary relief and disguise the emergence of AR until it is severe and multiple.

Sustained delivery

Medicated blocks or controlled release capsules will increase the clinical efficacy of those drugs which rely on prolonged action for their effectiveness. However, we have to bear in mind that prolonged exposure to a drug at low levels will increase selection for resistance. This approach will therefore not be permanent, and should only be used for very specific, limited purposes (e.g., weaners on green pasture) and not the entire flock in all circumstances.

Goats are different

Because of differences in the rate of metabolising drugs, goats must be treated as different to sheep. This means that goats must often be given a higher dosage rate than sheep except where there is a possibility of toxicity. Note that many anthelmintics may not be registered for use in goats, or that the recommended dose given is the same as for sheep. Unfortunately, therefore if the product is not

registered for use in goats, or the dosage rate is increases, the user has no legal redress if the product is used and fails, or causes losses.

F EFFECTIVE PLANNING

Use the expert

Knowledgeable veterinarians, who know the area, farming systems and risks can construct a simple, practical, economic and effective holistic worm management strategy. They can consult helminthologists where necessary.

Use a program

Unless a basic planned system is in place and is used, actions will inevitably be largely reactive and based on *ad hoc* or panic decisions. But this does not imply a rigid adherence to the basic plan.

Flexibility

The program must be flexible to allow for changes in weather, management and farming systems, drug costs or other factors.

Treatment strategy

It is probably true that on most farms animals are either dosed too often, or with inappropriate drugs, or at the wrong times, or with no coherent plan. By setting up a well thought out dosing plan, we can cut out ineffective doses which only add to the selection pressure for parasite resistance. This is one of the areas in which the knowledge and skills of the local vet are vital for success.

II OTHER MEASURES AND FACTORS

Protein supplementation

Since resistance and resilience are dependent on adequate nutrition, and the most important factor identified is protein, it is possible to ameliorate the effects of parasites by feeding animals better. We need to know when and how much of what supplement must be supplied to which class of animal, and what the cost / benefit ratio would be before this aspect can be fully integrated into our overall approach.

Condition scoring

The early indications are that this may be useful for identifying individual animals for treatment against some non-haematophagous worm species. The principle is that animals with a condition score which is more than half a score **below** the flock or herd average are treated. If the animals have a condition score below 2 and the risk of worm infestation is high, then treatment should be given.

Weather monitoring

Factors which affect the survival, development and infectivity of larvae on pastures must be considered. Temperature, rainfall, rainfall pattern, humidity and cloud cover will all have an effect and must be considered when making worm management decisions.

Flock/Herd history

Without knowing details of numbers, types, ages, reproductive stages, treatment, stocking rates, grazing pressures and livestock movements, decision making is at best arbitrary and at worst potentially disastrous.

Veld/pasture assessment and history

Coupled with livestock data, the advisor has to consider details of the veld or pasture type, its condition, growth stage, the soil cover, soil moisture, slope land the grazing history.

Assessment and decision support computer programmes

A few of these are available internationally, others are under development. Using computer power, they evaluate all the known risk factors and advocate alternative actions based on the given situation and data provided. The evaluation is of course only as good as the inputs given and these programmes cannot substitute entirely for the skills, knowledge and assessment of the advisor or the farmer.

III CONTROL MEASURES UNDER DEVELOPMENT

Predacious fungi

Nematophagous fungi in the soil can severely constrain larval survival by immobilizing and killing them. Practical implementation is, however, still a long way off.

DILUTION OF RESISTANCE

By the re-introduction of susceptible strains to a farm where a parasite strain has become resistant to anthelmintics, it is possible to significantly reduce the degree of resistance by a dilution effect. There is some indication that this can be effective on severely affected farms, by the process is slow, labour-intensive and costly.

Vaccination

A vaccine against wireworm is now available, discuss its use with your veterinarian

Condensed Tannins

Plants containing higher levels of tannins suppress worm egg counts, but also have problems with palatability and digestibility.

Cupric oxide

Needles of oxidised copper wire dosed into the rumen will reduce worm egg counts, but the long-term toxic effects (especially with sheep) have to be considered, especially if the diet is high in copper.

Change in body weight

Lack of satisfactory weights gain, or even weight loss, can be considered as indicators for the treatment of individual animals in a flock. However, weighing is time consuming and may not be applicable in a given situation.

IV INTEGRATED PARASITE MANAGEMENT

If any of the foregoing principles are used exclusively, failure will be certain. It is only by using a prudent mix of strategies that sustainable, cost-effective measures can be established. The decision on which measures are to be used in a given situation can only be made by an expert who is conversant with local conditions. This programme will of course have to be drawn up in close consultation with the livestock owner(s).

Whether the farming system is based on communal ownership, subsistence farming, small-scale farming, commercial farming or stud farming, the principles remain the same. Only the mixture and weighting of measures used to manage parasites will vary according to circumstances.

V ACTION CHECKLIST

To implement the holistic use of all the available worm control strategies and principles, the veterinary advisor needs to go about setting up a sustainable programme methodically. The starting point is always the basic management programme, although even this may need to be modified to accommodate sustainable parasite control. Once the key activities like lambing, mating and shearing have been established, and the basic grazing programme has been decided, the requirements of effective parasite management may be superimposed. Planning is a dynamic and never-ending activity, and plans need to be revised each year as necessary.

By following the checklist, advisors can ensure that all appropriate measures have been considered and used:

1. Make sure that the farmer understands and supports the need for change
2. Ensure that all measures are practical, integrated and financially defensible
3. Use an incremented approach, do not try to do everything at once
4. Evaluate and use knowledge in stock flow, reproductive programme, grazing systems, pasture or veld conditions and weather to decide on appropriate and integrated worm management actions.
5. Are the groups/classes of animals properly separated? If not, implement this if possible.
6. Give weanlings and late pregnant/lactating ewes most attention and the best circumstances
7. Are the pastures properly fenced, and are there enough camps for effective management?
8. Implement a satisfactory pasture resting program. Keep well rested pastures for susceptible groups
9. Graze camps sequentially by cattle, small stock and other host species if available
10. Make sure that animals are getting the right nutrition, especially protein, and avoid putting animals in poor condition onto high- risk pastures
11. Mend water leaks and fence off moist areas
12. Remove all grass from pens where animals are routinely held for long periods
13. Buy rams selected for resistance (FEC) and/or resilience (FAMACHA[®]/haematocrit)

14. Cull the minority of ewes which are unable to cope with prevailing parasite burdens
15. Institute a planned program for FECs to monitor the parasite situation
16. Ensure that the FECRT is done every second year
17. Introduce TST and Institute the FAMACHA[®] system for haemonchosis or BCS for other worm species
18. Ensure that the types and relative importance of parasites have been established on each farm as well as when they are likely to occur
19. Select and use the best drug for each situation
20. If all animals are treated, do not move to new pastures for 2-3 weeks or longer depending on the drug and formulation used
21. Ensure that the drug used is given in the most effective way
22. Quarantine and treat all introductions and put them onto infected pasture
23. Stick to what is possible in a given situation

**FAMACHA cards can be obtained through your veterinarian
(famachasystem@gmail.com)**

Serious problems due to diarrhoea in lambs and calves were received from many areas. In many instances *Cryptosporidium* and pathogenic strains of *E. coli* were involved. Consult your veterinarian for help!

https://www.google.co.za/search?hl=en&tbm=isch&source=hp&biw=1344&bih=608&ei=PyxyXOO7OcutkwXinK3oCA&q=cryptosporidium+parvum&oq=Cryptosporidium&gs_l=img.1.1.0i10.2885.9850..16402...0.0..0.708.5719.2-4j4j3j2j1.....0....1..qws-wiz-img.....0.o66yefU7Ric

External parasites

The following reports were received from practices regarding external parasite infestations:

External parasites	MP	G	L	N W	FS	KZ N	EC	W C	NC
Blue ticks	x	x	x	x	x	x		x	
Resistant blue ticks					x				
Heartwater ticks	x	x	x	x		x	x		
Brown ear-ticks	x	x	x		x	x	x		
Bont-legged ticks	x	x	x	x	x	x	x	x	x
Red-legged ticks	x			x	x	x			
Paralysis ticks	x				x	x			
Tampans									
Biting lice	x			x	x	x	x	x	
Sucking lice				x	x			x	
Fleas									
Itch mites	x				x				
Sheep scab					x				

Theileriosis									
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Asiatic red water is spreading and is one of the deadliest diseases in cattle.

Deaths occur when introducing susceptible animals into areas where tick borne diseases are present!

Numerous mortalities were reported.

Vaccinate your animals before 8 months of age. Contact your veterinarian for advice!!

Anaplasmosis outbreaks were reported from 7 provinces! Biting flies are the main transmitters of this disease.

Using the same needle when vaccinating cattle may also be the reason for an anaplasmosis outbreak!

Red water and anaplasmosis can be confirmed by examining blood smears under a microscope.

The keyword is: **vaccinate** your animals! Contact your veterinarian.

Beware of moving susceptible animals into areas where infected ticks are present or moving animals with infected ticks to disease free areas! Before deciding to buy animals speak to both veterinarians – from the area moving the animals and the area where they are moving to.

Tick toxicosis

Tick toxicosis	MP	G	L	NW	FS	KZN	EC	WC	NC
Sweating sickness	x			x	x	x		x	

Sweating sickness is caused by a toxin injected into calves by females of the bont-legged tick specie.

Insect transmittable diseases

The following insect transmittable diseases were reported by practices in the provinces:

Insect transmittable diseases	MP	G	L	N W	FS	KZ N	EC	W C	NC
Lumpy skin disease	x	x			x	x	x	x	
Pseudo Lumpy skin disease (Allerton virus)									
Ephemeral fever (Three-day-stiff sickness)					x	x	x	x	x
Blue tongue		x			x	x	x	x	
Rift Valley Fever									
Wesselsbron disease									
Nagana						x			

Made available by Dr. Claudia Cordel (execuvet26@gmail.com)

Due to cold weather setting in the insect numbers dropped and therefore a drop in the reporting of insect transmittable diseases.

Make sure your animals are vaccinated before the rainy season!!!!!!!!!!!!!! Do not vaccinate your animals during an outbreak on your farm.

Lumpy skin disease is transmitted by biting flies and insects and some ticks. When an outbreak occurs on a farm, needle transmission of the virus is possible.

Three day stiff-sickness (Bovine Ephemeral Fever) cases dropped. Reports of low conception rates were reported in herds where these diseases were rife.

Blue tongue caused dropped.

A new inactivated blue tongue vaccine was registered.

An abortion storm may indicate an outbreak of Rift Valley Fever. This viral disease is a zoonosis. Do not come into contact with infected material such as afterbirths and blood.

Immediately contact your veterinarian when having an abortion storm in your animals

Veneral diseases

The following venereal diseases were reported by practices in the provinces:

Venereal diseases	MP	G	L	NW	FS	KZN	EC	WC	NC
Trichomonosis	x			x	x	x			
Vibriosis	x	x		x	x		x		
Pizzle disease									
<i>Actinobacillus seminis</i> plus HPA									

BEWARE

New cases of trichomonosis are reported every month and this disease is out of control.

Make sure to buy bulls from farmers where biosecurity measures are in place and bulls are tested for these diseases at regular intervals. Trichomonosis were reported from 4 provinces.

Veneral diseases are HERD diseases! Calculate your losses if these diseases are not eradicated on your farm!

Make sure that fences are in good order and gates closed so that bulls cannot escape to neighbouring cows that may be infected with *Tritrichomonas* and become infected or infected neighbouring bulls are jumping fences to your farm.

Cattle study groups should discuss preventative and control measures with their veterinarians. **Be sure to test bulls regularly for these diseases.**

Beware when buying in or sharing bulls! Remember female animals may also be infected.

Study the Good management SOP's for cattle farmers on the RPO website

Consider Trichomonosis as an area disease, farmers should work together to keep areas free from diseases such as trichomonosis, brucellosis, tuberculosis, Johne's disease and sheep scab.

Bacterial diseases

The following bacterial diseases were reported by practices in the provinces:

Bacterial diseases	MP	G	L	NW	FS	KZN	EC	WC	NC
Anthrax									
Blackquarter	x	x	x	x	x	x	x		x
<i>Clostridium sordelii</i>									
<i>Clostridium septicum</i>				x				x	
Clostridial diseases					x				
Botulism					x			x	x
Pulpy kidney	x	x			x	x	x	x	x
Lamb dysentery									
Swelled head								x	
Red gut (cattle)	x	x					x	x	
Blood gut (sheep)		x		x	x		x	x	x
Tetanus		x			x	x		x	
Salmonellosis	x				x	x			
<i>Klebsiella</i>							x		
Bovine brucellosis				x	x		x		
<i>Brucella melitensis</i> (goats)									
Ovine brucellosis (Ram's disease)							x	x	
Bovine tuberculosis			x						
Johne's disease								x	
Leptospirosis					x			x	
Listeriosis								x	
<i>Pseudomonas</i>						x			

Pasteurellosis (see pneumonia - lungs)		x		x	x	x	x	x	x
<i>Pasteurella multocida</i>									
<i>Fusibacterium necrophorum</i>	x								
Septicaemia					x	x	x	x	
<i>E. coli</i>	x	x		x	x	x	x	x	x
<i>Klebsiella</i>									
<i>Coxiella</i> (Q-fever)								x	
<i>Mycoplasma</i>									
<i>Histophilus somni</i>									
Enzootic abortion					x				
Lumpy wool (<i>Dermatophilus</i>)					x				
Bovine dermatophilosis (Senkobo disease)	x					x			
Uterine gangrene		x							
Wooden tongue (<i>Actinobailillus lignieresii</i>)									
Lumpy jaw (<i>Actinomyces bovis</i>)									
Interdigital dermatitis									

Most of the bacterial diseases can be prevented by vaccination! Discuss and update your programme regularly in consultation with your local veterinarian!

Multi-clostridial vaccines should be used if blackquarter outbreaks still occur when only using a vaccine containing *Clostridium chauvoei*. Remember to give a booster vaccine when using an inactivated vaccine for the first time. **Read the packet insert!!** Study the table above and determine the risk for animals getting infected from bacterial and viral diseases on your farm.

Get advice from your veterinarian on *Cryptosporidium/E. coli/Rota* and Corona virus outbreaks in your area and what to do to prevent losses in lambs and calves. **Biosecurity!!!!!!!**

Enzootic abortion contributes to the disappearance (verdwyning siekte) of foetuses in sheep and goats scanned pregnant. **Vaccinate replacement ewes with the live vaccine before putting them to the ram!**

Pulpy kidney (*Clostridium perfringens* type D – *epsilon* toxin) is still the biggest killer of sheep. There are various factors that could lead to pulpy kidney such as: the intestinal tract stops functioning (stasis), sudden change from poor veld to lush artificial pastures; sudden change in diet; grazing of fodder crops such as lucerne, green wheat and green oats, diet high in protein, overeating of concentrates or fertile pastures, deworming and coccidiosis infection. Sudden changes in the weather and grazing in wilted pastures, may also play a predisposing role.

Be sure to vaccinate animals against botulism especially if chicken litter is going to be fed to animals. Make sure that there are no carcasses in the water troughs and bales. Prevent pica by giving licks containing phosphorous.

Jaagsiekte									
Orf	x	x		x	x	x	x	x	x
Warts	x	x		x	x	x	x	x	
Herpes mammillitis - goats									

There is no treatment for viral diseases with the result that the animal's immune system has to be stimulated by vaccinations (if vaccines are available).

Preventative vaccinations are the best way to protect animals against viruses and bacteria causing pneumonia.

Keep cattle and wildebeest well separated especially when wildebeest are under stress to prevent snotsiekte outbreaks! There is also a sheep associated form of the disease.

Have a dialogue with your neighbour if wildebeest are in the area.

BMC (snotsiekte) is a notifiable disease and have to be reported to the State Veterinarian.

<http://nahf.co.za/controlled-and-notifiable-diseases/>

Discuss vaccination programmes and biosecurity measures with your veterinarian.

Orf (vuilbek) is a zoonosis.

Enzootic bovine leucosis virus is transmitted by blood (vaccinations, rectal examinations, certain procedures, etc.) This disease, EBL, can be latent in your herd. As there is no vaccine available, be extra careful not to introduce the disease into your herd. More information is received warning us that this disease is also a zoonosis. Talk to your veterinarian as to take necessary precautionary measures.

Fungal diseases

The following fungal disease was reported by practices in the provinces:

Fungal diseases	MP	G	L	NW	FS	KZN	EC	WC	NC
Ringworm	x	x		x	x	x	x	x	

Protozoal diseases

Protozoal diseases	MP	G	L	NW	FS	KZN	EC	WC	NC
Besnoitiosis (olifantsvelsiekte)			x						

Toxicities

All plants and chemicals that have been responsible for toxicity in the past are listed. The following toxicities were reported by practices in the provinces during September 2023:

Toxicities	MP	G	L	NW	FS	KZN	EC	WC	NC
Cardiac glycoside		x			x				

Alcohol poisoning									
Chemical products									
Paraquat									
Phosamine									
Aldicarb									
Organophosphate					x				
Zinc phosphide									
Xanthium									
Pyrethroid									
Amitraz									
Levamisole									
Macrocyclic Lactone/Ivermectin									
Moxidectin									
Oxytetracycline									
Tilmicosin									
Bromoxynil nitrate									
Ionophor									
Monensin									
Hypo									
Diazinon									
Carbofuran (carbamate)									
Glutaraldehyde									
Glyphosate									
Chemical products									
Chicken litter									
Medicated maize seed									

Keep all chemical products locked!

Beware when buying animals or moving them into rested grazing camps as they are the animals which usually eat toxic plants such as gifblaar, tulip, gousiekte, and ink berries (*Cestrum*).

Do have activated charcoal on the farm as charcoal is the antidote for tulip (6 provinces) poisoning! Dosage: 2 gram per Kg body weight, 1 Kg charcoal for 500kg animal. Toxic plants are sometimes eaten by young animals that do not know these plants are toxic. Be aware of this situation and know where these plants are growing on the farm. Tulip toxicity was reported from 5 provinces.

Urea poisoning occurs every now and then on farms. **Make sure that licks containing urea are mixed and formulated properly. Many mortalities were reported where mixing instructions and calculations were not followed correctly! Make sure that licks containing urea do not get wet during the rainy season.**

Every now and then goats die when they are injected in the neck area, rather inject them in the tail fold or behind the shoulder.

Nutritional deficiencies

The following nutritional deficiencies were reported by practices in the provinces:

Deficiencies	MP	G	L	NW	FS	KZN	EC	WC	NC
Energy	x		x	x	x	x	x		x
Protein			x	x	x	x	x		x
Phosphate				x		x	x		x
Calcium	x				x	x	xx	x	

It is important that ewes and cows receive sufficient supplementation so as to have optimal colostrum quality for their offspring! Reports of downer animals were recorded.

Reports of fires destroying grazing were received. **Animals in poor condition are not going to survive due to lack of protein and energy!!!!**

Micro-nutritional and vitamin deficiencies

The following micro-nutritional deficiencies and vitamins were reported by practices in the provinces:

Deficiencies	MP	G	L	NW	FS	KZN	EC	WC	NC
Iodine						x			
Copper				x	x	x	x	x	
Zinc					x		x	x	
Selenium		x		x	x	x	x	x	x
Magnesium							x	x	
Manganese								x	
Vitamin A				x	x				
Vitamin B 1		x							

There are antagonists such as calcium, iron and sulphur which hamper the uptake of micro-minerals. Have water and soil samples analysed to see what the levels of these antagonists are. Arrange with your veterinarian to have liver samples analysed to determine the status of these micro-minerals in your herd or flock.

Mastitis		x		x	x	x	x	x	
Navel ill			x			x	x		
Abdominal hernia									
Umbilical hernia									
Red gut (sheep, torsion of gut)		x							
Rectal prolapse									
Rumen stasis									
Peritonitis									
Abdominal impaction									
Abdominal hernia									
Intussusception									
Floppy kid syndrome									
Swelsiekte									
Traumatic reticulo-peritonitis	x	x			x	x			
Trauma	x	x				x		x	x
Teeth wear									
Plastic bags (ingestion)									
Sand impaction									
Intussusception									
Downer	x	x		x	x	x		x	x
Obturator nerve paralysis									
Anorexia									
Poor condition									
Anaphylactic shock									
Immune incompetence									
Vestibular syndrome (middle ear infection)			x						
Hernia									
Deformaties									
Wet carcasses at abattoir		x			x			x	x
Yellow carcasses at abattoir	x				x			x	

Pseudomonolysis									
Mismothering	x					x			
Neonatal deaths									

Discuss the origin, treatment and prevention of these diseases with your veterinarian.

Lameness and eye conditions are a huge problem in most parts of the country.

Downer animals, due to lack of food, protein and energy is of great concern!

The cause of abortions should be established: brucellosis, enzootic abortion, Q-fever, leptospirosis, Rift valley fever, infectious disease causing a fever, etc. The necessary preventative measures can then be taken.

Metabolic diseases

The following diseases were reported by practices in the provinces:

Metabolic diseases	MP	G	L	NW	FS	KZN	EC	WC	NC
Acidosis		x			x	x		x	
Displaced abomasum						x			
Ketosis (domsiekte)			x		x	x	x	x	
Milk fever	x				x	x	x	x	

Make sure that you adapt animals to feed containing concentrates as more and more cases of acidosis are reported when grazing animals on harvested maize fields. Overeating of soya leads to an alkalosis.

Discuss the aetiology, treatment and prevention of these diseases with your veterinarian.

Reproductive diseases

Reproductive diseases	MP	G	L	NW	FS	KZN	EC	WC	NC
Dystocia (difficult births)	x	x	x	x	x	x	x	x	x
Mummified foetus									
Endometritis	x			x	x	x		x	
Metritis	x			x	x	x	x	x	
Hydrops									
Foetal maceration									
Poor conception	x			x	x	x	x	x	x

Retained afterbirth	X			X	X	X	X	X	
Uterine rupture									
Sheath prolapse	X	X		X	X				
Uterine prolapse	X	X	X	X	X	X	X	X	X
Vaginal prolapse	X	X	X	X	X	X	X	X	X
Penis injury									
Orchitis									
Sub-fertile rams									
Sub-fertile bulls							X		
Vesiculitis in bull									
Hypogonadism (testes hypotrophy)									
Ruptured tunica albuginea									

Secret of making money is to have an offspring of EACH heifer, cow, ewe or doe on the farm and wean that calf, lamb or kid EVERY YEAR!!

A poor conception rate on many farms is a huge issue. Consult your veterinarian to rectify this problem.

Environmental conditions

	MP	G	L	NW	FS	KZN	EC	WC	NC
Exposure to cold	X								
Frozen to death									
Heat stress			X	X	X		X		
Lightning	X			X	X	X			X
Electrocution									
Drought	X		X	X	X				X

Other conditions

	MP	G	L	NW	FS	KZN	EC	WC	NC
Dermatosparaxis	X								
Genetic disorders	X				X				

Predators	x			x	x	x			
Theft/Sabotage	x	x		x	x	x			
Trauma (fractures etc)	x	x	x			x			x
Trauma (veldfires)				x	x				x
Cause of death not established									

In the CODE OF CONDUCT of the RPO the following standard operating procedures are documented. The local veterinarian should be your partner to help you achieve the necessary standards.

<http://www.rpo.co.za/BestPractices/English.aspx>

PRECAUTIONARY MEASURES TO SUPPORT BIO-SECURITY:

Precautionary measures are required to protect the herd against diseases acquired because of external contact. The following categories are of concern:

1. DIRECT LIVESTOCK PURCHASES (and own animals returning):

The following should be **verified** before importing new animals into the herd:

How long animals have resided at the purchase or previous location?

Have there been any recent disease outbreaks in the location?

Do brand marks clearly confirm ownership?

Was a vaccination program followed (need paper or veterinarian proof). What are the local prevalent external parasites and the routinely implemented control program?

Is a veterinarian supported control program against transmittable diseases followed?

Dates and sufficient number of tests for reproductive diseases of both male and female

Dates and tests for zoonotic diseases

The above should also be verified with the purchaser's own veterinarian.

2. PURCHASES FROM SALES OR SPECULATORS

Purchase only in areas which are not in close proximity to scheduled areas

Visually inspect the animals before purchasing for:

* brand marks

* parasite infestation

3. TRANSPORT TO THE FARM

Use only reputable transporters

Has the truck been cleaned and disinfected?

Truck to follow the shortest uninterrupted route

Truck to take the shortest route to the handling facilities

Do not allow the truck personnel to get in contact with the farm herd

4. ARRIVAL ON THE FARM

Off-load the livestock to limit stress and to be visually evaluated for any unnatural conditions.

Isolate them from the farm herd and shared facilities for at least 21 days (quarantine)

Retest for diseases of concern if needed, before mixing with the rest of the herd

Process new arrivals within 24 hrs after arrival (unique ID tag brand, dip, dose, vaccinate)

Inspect regularly

5. FEED PURCHASES

Ensure bales of hay are sourced from areas that are not bordering scheduled areas

Purchase feed from reputable dealers only

Avoid buying feed in second hand bags

Ensure feed trucks are also disinfected and cleaned, especially if also used to transport animals to abattoirs

6. VISITORS

Do not allow strangers or their vehicles amongst the livestock

Ensure fences are well maintained and preferably jackal and warthog proof

7. EMPLOYEES

Do not allow the employees to eat in feed stores

Supply employees with sufficient ablution facilities

Regularly arrange to let employees be medicated for tape worm and have health check-ups

Keep record of all employee livestock on the property

Treat employee livestock with separate but dedicated health programs

Ensure employees understand the reason behind the implemented bio-security measures to help ensure compliance.

GENERAL AND REPRODUCTION MANAGEMENT

Record keeping: All animals are individually identified and recorded.

To prove ownership: All animals are marked with the registered brand mark according to the Animal Identification Act, No 6 of 2002.

A defined breeding season is the basis of effective management: The breeding season coincides with the rainy season, i.e. the period when nutritive value of the pasture is at its best.

Sufficient energy reserves in the herd as measured by condition scoring are vital, especially for effective breeding, and when inadequate the herd is supplemented in consultation with a nutritionist: Condition scoring of bulls and cows are regularly done, particularly at the onset of the breeding season and supplemented if necessary.

Bull - cow ratios are maintained: A ratio of 1 to 25 is maintained in every separate herd.

Fertility of breeding bulls: All breeding bulls are tested for mating ability and semen quality before the breeding season.

Sexually transferable diseases: Sheath washes or scrapes on bulls are performed annually.

Diseases that can cause poor conception, abortion or weak calves: Cows are vaccinated against such diseases in consultation with the veterinarian.

Breeding success monitored by a veterinarian: Rectal pregnancy or scan diagnosis is done by the veterinarian 8 weeks after the breeding season.

Twenty percent of cows or more not pregnant: Further tests are done to determine cause of low pregnancy rate.

Culling of non-pregnant cows: Non-pregnant cows are removed from the herd and considered a necessary bonus to supporting herd income.

HERD HEALTH AND BIO-SECURITY

Maintenance of herd health is key to a successful enterprise: A veterinarian should visit the farm bi-annually at least.

Calf mortality before 3 months of age is an important reason for poor weaning percentage: Good management practices are applied to limit early calf deaths.

Some diseases and parasites (internal and external) are more often encountered in specific areas: Annual vaccinations and a parasite control program should be applied according to regional requirements and in liaison with the veterinarian.

Farmers selling weaned calves to feedlots may want to have a market advantage compared to others: A specific vaccination program is applied before weaning for that purpose.

Herds may be at risk of being exposed to CA and TB: The herd is tested annually for CA and all heifers are vaccinated against CA between 4 and 8 months of age with an efficient, approved remedy. The herd is tested at least every 5 years for TB

Precautionary measures are required to prevent diseases being imported into the herd: A quarantine program to keep incoming animals separate is followed. All incoming animals have a suitable certificate of negative test results or are of a certified clean, closed herd.

Stock remedies and medicines should be registered, correctly stored and used before the transpire date: All medicines and stock remedies are registered, stored and applied according to prescription. Prescribed medicines with a specific application are under the control of the veterinary profession: All prescription medicines are obtained and applied under prescription from a veterinarian.

Practices that had nothing to report:

Beestekraal – Dr. Alwyn Venter
Calvinia – Dr. Bertus Nel
Malalane – Drs. Van Sittert and Van Sittert
Malmesbury – Dr. N.J. Heyns
Nigel – Dr. Cindy van der Westhuizen
Piketberg – Dr. André van der Merwe
Rayton – Dr. Frans Malan
Swellendam – Dr. Marlia de Wet, Smit and Venter
Vanderbijlpark – Dr. Kobus Kok
Vredendal – Dr. Chris van Dijk
Wesselsbron – Dr. Johan Jacobs

Equines:

Mpumalanga

Lydenburg

Nuisance flies – 2
Dermatophilosis - 2

Gauteng

Pretoria

Midges - 2

Magaliesburg

Colic – 3 - Lots of colic-impaction from hot dry weather

Kwa-Zulu Natal

Ixopo

Colic
Trauma

Eastern Cape

Port Alfred

Respiratory infection – 1 near Bathurst
Conjunctivitis – 1 in Bathurst
Eye infection – 1 pan-ophthalmitis near Clumber

Northern Cape

Upington

Midges – 3

Game:

Mpumalanga

Lydenburg

Screw-worm - 1 Buffalo
Metritis – 1 Buffalo

Gauteng

Pretoria

Copper deficiency – 1

Limpopo

Bela-Bela

Dystocia – Nyala

Dystocia – Eland

Free State

Reitz

Rabies – Vleimuishond on cattle farm

Eastern Cape

Port Alfred

Abscess – 1 joint abscess in a Sable near Port Alfred

Swine:

Gauteng

Pretoria

Weakness and lethargy – 1

Dermatitis – 2 Red spots on skin

Fluid filled masses - 1

Oudtshoorn – Report from Dr. Adriaan Olivier (South African Ostrich Business Chamber) for November 2023

Bont-legged ticks	3
Septicaemia	3 Ostrich, day old hatch, wet nest 1 to 6 weeks ago
Typhlocolitis, enterotoxaemia	3 Ostrich chicks, 1-2 weeks of age. Severe pseudomembranous typhlocolitis, clostridial enterotoxaemia
<i>E.coli</i>	3 Secondary, after primary clostridial enterotoxaemia and after treatment with antibiotics
Suspected Reo virus	3 Leg/joint deformities
Avian antibodies	3 AI antibodies H 5 or H6 exposure. One H 7 case but not related to chicken H 7 N 6
Mycotoxicosis	1 Ostrich feed suspected
Water contamination	3 Ostriches drinking from dirty water source
Vitamin E and Selenium deficiency	3 Ostriches with enteritis, fast growing and heat stress
Diarrhoea	3 Ostrich chicks, 1-2 weeks old and 5 weeks old with severe clostridial or with secondary bacterial complications
Heat stress	3

Monthly report on Livestock and Wildlife isolations for November 2023 from Vetdiagnostix – Microbiology Laboratory, supplied by dr. Marijke Henton (henton@vetdx.co.za)

Vetdiagnostix microbiology

Bacteriology

Bovine respiratory tract disease yielded *Pasteurella multocida* [2 farms], *Mycoplasma*, *Histophilus somni* and *Trueperella pyogenes*. All four that were mentioned were isolated from a single feedlot that submitted a large number of samples from very sick animals that did not respond to treatment. Most of the infections were due to *Trueperella pyogenes*. *T. pyogenes* infections do not respond well to treatment with water-based antibiotics and need to be treated with lipophilic antibiotics such as tetracyclines or fluoroquinolones to ensure proper penetration of the abscess wall.

Subcutaneous abscesses in dairy cattle were due to *Staphylococcus aureus*, *Staphylococcus pseudintermedius* and *T. pyogenes*.

Calf enteritis was associated with *E. coli* in 10 cases, two of which were ESBL [Extended Spectrum Beta Lactamase] multi-resistant strains. One of the strains was positive for the virulence factor *stx 2*, which means that it is associated with Enterohaemorrhagic colibacillosis. *E. coli* was also associated with septicaemia [2] in calves.

Gangrenous myositis yielded *Clostridium novyi* [4] and *Clostridium chauvoei*.

Pneumonia in sheep was due to *Mannheimia haemolytica* [2]. Abscesses were due to *T. pyogenes* on 4 sheep farms and *Corynebacterium pseudotuberculosis* on 2 sheep farms and one goat farm.

There was one case of abortion in sheep due to *Salmonella*. Sheep in South Africa seldom abort due to *Salmonella*, but these sheep were exposed to contaminated water. The result of typing the isolate has not yet been received.

Blue udder was due to *Bibersteinia trehalosi* [was *Pasteurella haemolytica* T].

Enteritis in pigs was associated with *E. coli* [5].

Clostridium novyi was identified on two pig farms; one was associated with Aero Chocolate Liver, and no history was provided for the other case.

Monthly report on Livestock and Wildlife isolations for November 2023 from Vetdiagnostix – Supplied by Dr. Rick Last- BVSc; M.Med.Vet (Pathology)

Specialist Veterinary Pathologist, Vetdiagnostix - Veterinary Pathology Services, South Africa

Livestock:

Bovine neonates. Nutritional myopathy. Dundee, KZN.

Bovine calves. Calf Paratyphoid. Underberg, KZN..

Bovine Cow. Lantanna poisoning. Polokwane, Limpopo.

Porcine. White spotted liver – *Ascaris suis*. Pretoria, Gauteng.

Bovine calves. Calf paratyphoid. Kokstad, E. Cape.

Wildlife.

Impala Adult. Lungworm and hepatic *Cooperoides* associated abscessation. Pookwane, Limpopo.

Monthly report on livestock and wildlife isolations for November 2023 by Department Veterinary Tropical Diseases Bacteriology Laboratory, University of Pretoria, supplied by Dr Annelize Jonker

Livestock:

Cattle:

Clostridium perfringens was isolated from an intestine sample from a cattle carcass.

Trueperella pyogenes and a smooth *Escherichia coli* was isolated from intestines from two calves.

Trueperella pyogenes was isolated from abomasal fluid from a cattle foetus.

A *Streptococcus* species was isolated from a placenta from a cattle abortion case.

Pseudomonas aeruginosa was isolated from a lung, liver, spleen and intestine samples from a cattle carcass.

Sheep and goats:

Corynebacterium pseudotuberculosis was isolated from samples from two goats.

Corynebacterium pseudotuberculosis was also isolated from a lung sample from a sheep carcass.

Trueperella pyogenes was isolated from lung samples from a sheep carcass.

Monthly report on Livestock and Wildlife isolations for November 2023 from Pathcare Vet Lab supplied by Dr. Liza du Plessis (Elizabet.duplessis@pathcare.co.za)

Condition	Comments and Specie
Red gut	G 1
Johne's disease	O 2
Coccidiosis	G 2
Bacterial necrotic enteritis	B 1
Diarrhoea (<i>E. coli</i>), calves	B 3
<i>Corynebacterium pseudotuberculosis</i> abscess	O 1
Sarcoid	E 2
Krimpsiekte/chronic cardiac glycoside	O 1
CCN	O 1
Abortion infectious	O 1
Abortions – Various non-infectious, Brucellosis (B); Chlamydiosis (O)	B, O, C

University of Stellenbosch, Animal Science Department – Dr. Bennie Grobler November 2023

Condition	Specie and Numbers
Wireworm	O 2
Warts	C 1
Abscesses	C 3
Ophthalmia	O 1
Lameness	O 2
Acidosis	O 2
Mismothering	O 2

Monthly report November 2023: Dr. Mark Chimes -Dairy Standard Agency

Lameness/Foot problems – Dairy 2 in Alexandria area

Mastitis – Dairy 3 in Alexandria area

Monthly report November 2023: Dr Theo Kotzé – One Health Consultancy and Vet Lab

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0827849706

No new State controlled disease or Notifiable disease to be reported during November

Diverse mastitis pathogens

Thoughts on Foot and Mouth Disease control

International and Disease Management Area: protocol needed

Farm gate: Self-regulation through entrance control

Veterinary certification – 28 days quarantine

Traceability at auctions

Traceability at abattoirs

Strict quarantine control

Strategic vaccination

Strategic surveillance

Feedlot report received from Dr. Eben du Preez for November 2023

(edupreez1@telkomsa.net)

Condition	Comments and Specie
<i>Parafilaria</i>	B 1
Blue ticks	B 2
Bont ticks	B 3
Bont-legged ticks	B 3
Red-legged ticks	B 3
Screw-worm	B 3
Heartwater	B 3
Red gut	B 3
Ringworm	B 3
BVD	B 1
EBL	B 1
Warts	B 3
Orf	O 1, G 3
Zinc deficiency	B 3
Gifblaar toxicity	B 1
Energy excess	B 1
Phosphate deficiency	B 3
Joint ill	B 3
Lameness	B 3
Pneumonia	B 3
Eye infections	B 3
Abscesses	B 3
Trauma	B 3
Pericarditis	B 3
Farmers reporting	B Anaplasmosis, Foot rot, Pneumonia, Bloat, Red water

Dr. Clara Blaeser -Queenstown Provincial laboratory – September 2023

Area	Sample	History	PM findings	Other tests/outcome
Queenstown	Avian carcass	3 out of 22 died. Became weak while sitting on eggs in different enclosure, fed maize	Moderate icterus, pale mucous membranes, air sacks clear, liver pale and friable	Suspect fatty liver
Bullhoek	Ovine carcass	Injected with ivermax the day before death. No vaccination history	Severe post mortem bloat, green discoloration of skin, congested mucous membranes, day 1 maggots around mouth and anus	Suspect pulpy kidney
Queenstown	Blesbok carcass x2	Poaching case. No exit wounds. Investigating officials wanted bullets out	Both mature does . both had wounds through the thorax with severe haemorrhage in the axillae and along thoracic wall. Bullets found in soft tissue on left forelimb region	
Gwatyu	Ovine carcass	Found dead with foam from nose	Straw coloured fluid in body cavities, pale mucous membranes, splenomegaly, oedema of GIT and lungs. + wire worm in abomasum	Heart water (confirmed on brain smear)
Queenstown	Avian carcass x2	2 died out of about 120 layers. They are in individual cages. No symptoms detected	1: fibrinous peritonitis, uterus distended filled with pus and shell 2: emaciated, very tight skin, sunken eyes, congested comb	1: dystocia 2: dehydration
Burgersdorp	Avian carcass	Layers bought from Gauteng. 200 out of 900 died over the course of 3 weeks	Previously frozen carcass. Petechiae on breast muscle, tight skin and sunken eyes, No fat, crop full, pale diarrhoea, caecal tonsils red and raised.	Negative PCR For AI, NCD and IBDV

Feedlot report received from Drs. Morris, Morris and Barnard, November 2023 (shaun@octavoscene.co.za)

Condition	Comments and Specie
Botulism – Chicken litter in ration, 70 cattle died	B 3
Acute interstitial pneumonia (AIP)	B 3
Anaplasmosis	B 3
Lumpy skin disease	B 2
Bloat	B 3
Stress	B 3

30th November 2023

Import/Export Policy Unit Subdirectorate

Monthly report: Faculty of Veterinary Science cases

Wildlife cases sent to referring veterinarians between 2nd and 30th November 2023

Cases from State vet Skukuza or Orpen

Cases imported with master permit

PMDate	Species	Final	Histo No
13-Jun-23	Cheetah	Chronic renal disease	S1683-23
13-Jun-23	Cheetah	Bacterial enteritis	S1685-23
13-Jun-23	Cheetah	Acute heart failure (anaesthetic death)	S1686-23
17-Jul-23	Lion	Normal reproductive tract	S2082-23
08-Aug-23	Lion	Post- contraceptive ovaries	S2306-23
08-Aug-23	Lion	Normal reproductive tract	S2307-23
01-Aug-23	Cheetah	Cryptococcal meningoencephalitis	S2248-23
11-Aug-23	White Rhino	Acute heart failure	S2331-23
16-Aug-23	Cheetah	Hydrocephalus	S2386-23
16-Aug-23	Lion	Normal reproductive tract	S2394-23
28-Aug-23	Lion	Normal uterus	S2539-23
16-Aug-23	Tiger	Thoracic mesothelioma, complications of hepatic cysts	S2395-23
23-Aug-23	Cheetah	Phaeochromocytoma	S2481-23
28-Aug-23	Lion	Normal reproductive tract	S2540-23
28-Aug-23	Lion	Normal reproductive tract	S2541-23
09-Nov-23	African Elephant	Suspected hypertrophic scar	S3303-23
09-Nov-23	Lion	Cutaneous Schwannoma	S3305-23
09-Nov-23	Lion	Perivascular dermatitis	S3306-23
03-Nov-23	Lion	Ulcerative eosinophilic cheilitis	S3242-23
10-Nov-23	Ring tailed Lemur	Mammary carcinoma	S3339-23
10-Nov-23	Cockatoo	Cutaneous dermatitis (xanthomas)	S3333-23
10-Nov-23	Nyala	Protein energy malnutrition	S3340-23
22-Nov-23	Lion	Eosinophilic gastritis	S3446-23

Kind regards,



Prof. Emily Mitchell