

RIFT VALLEY FEVER

AN EVALUATION OF THE OUTBREAKS IN SOUTH AFRICA

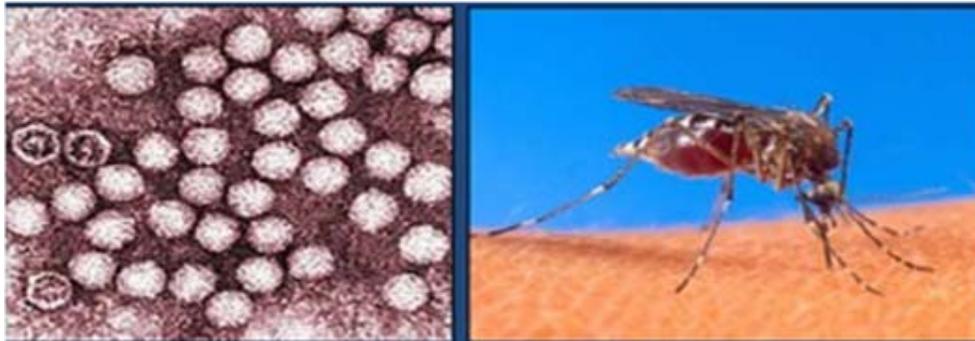


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RIFT VALLEY FEVER (RVF) IN SOUTH AFRICA: Introduction

- Mosquito-borne viral disease which affects livestock, some game and Humans
- The disease was first recorded in the Rift Valley of Kenya in 1931 hence the name
- An outbreak normally follows persistent heavy rainfall
- Causes Massive abortions and death of esp younger animals



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RIFT VALLEY FEVER (RVF) IN SOUTH AFRICA: Introduction

- It is a zoonosis and humans become infected from contact with tissues and blood of infected animals. The signs of disease is flu-like and a small percentage of patients develop complications and may die.
- Farmers, farm workers, veterinarians and abattoir personnel are mostly at risk.
- There is a small chance that the virus can be transmitted to humans by mosquito bites and unpasteurized milk, during a severe outbreak but the main route of infection remains contact with infected animals.



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HISTORY OF RVF IN SOUTH AFRICA

- RVF was first recorded in South Africa in **late 1950**, but was only recognised as RVF in **1951** when humans became ill after contact with infected animals.
The outbreak was severe and occurred in the North Eastern part of South Africa.
- Approximately 100 000 sheep died and 500 000 aborted in this epidemic, according to veterinary reports. Smaller losses occurred in cattle.
- Attenuated live vaccine (Smithburn strain) was introduced to control and prevent outbreaks.



HISTORY OF RVF IN SOUTH AFRICA

- Outbreaks have always been associated with above average rainfall at irregular intervals of 5 to 15 years.
- Major outbreaks occurred in 1950/51, in 1974/1975 and now in 2010.
- Less severe and localized outbreaks of RVF or sporadic isolation of virus were recorded in the intervening periods.



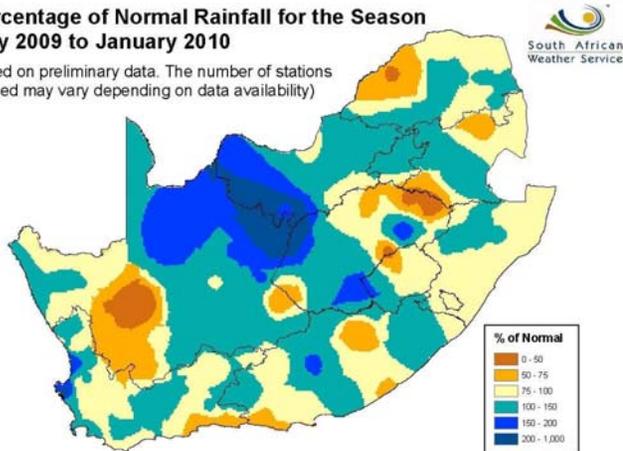
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RAINFALL PATTERNS IN THE AFFECTED AREAS

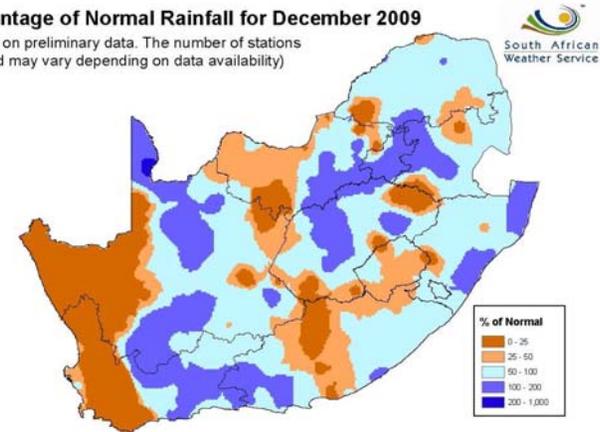
**Percentage of Normal Rainfall for the Season
July 2009 to January 2010**

(based on preliminary data. The number of stations used may vary depending on data availability)



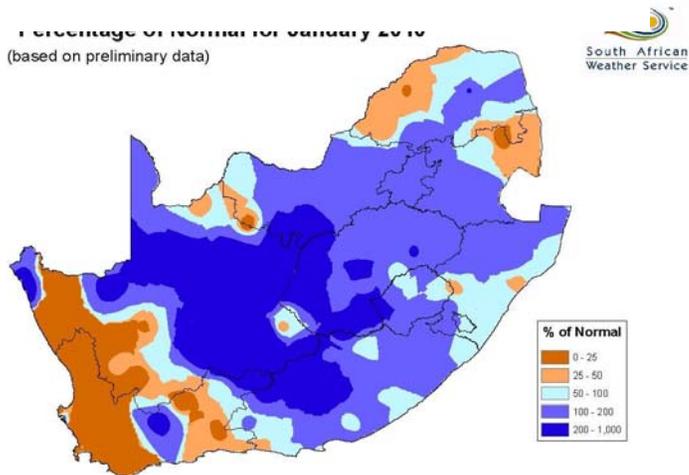
Percentage of Normal Rainfall for December 2009

(based on preliminary data. The number of stations used may vary depending on data availability)



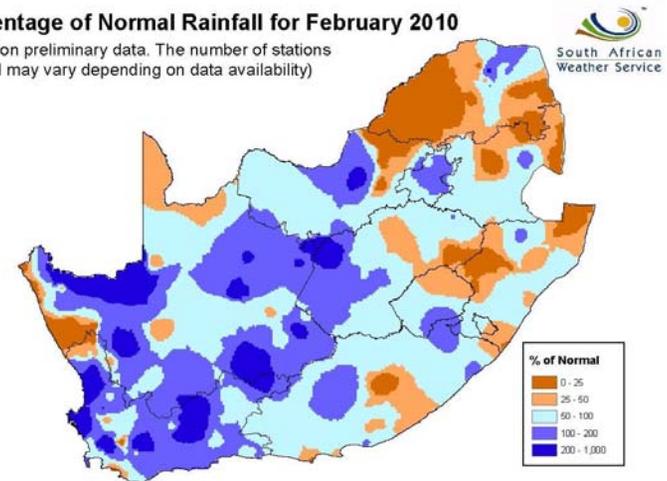
Percentage of Normal Rainfall for January 2010

(based on preliminary data)



Percentage of Normal Rainfall for February 2010

(based on preliminary data. The number of stations used may vary depending on data availability)



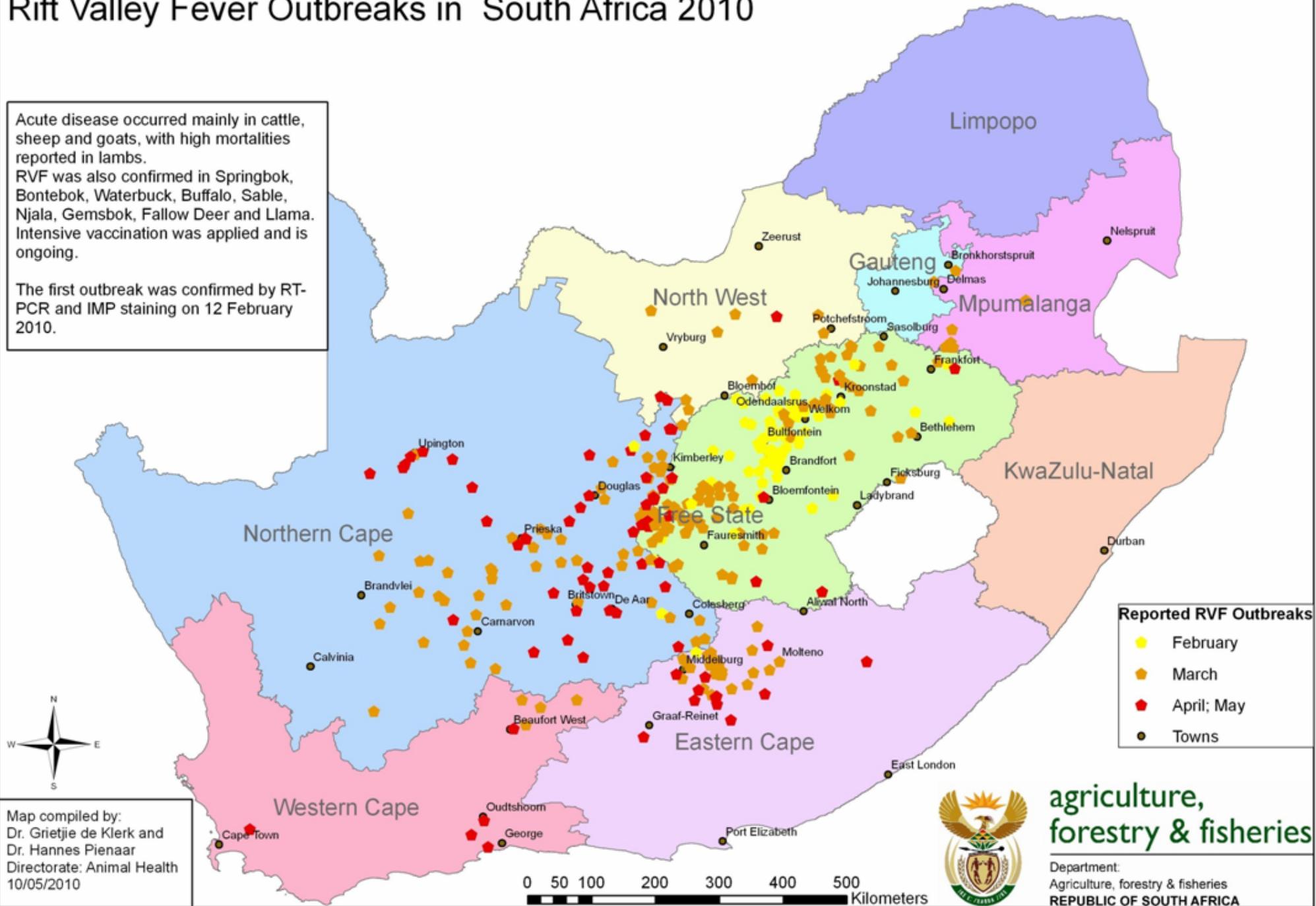
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Rift Valley Fever Outbreaks in South Africa 2010

Acute disease occurred mainly in cattle, sheep and goats, with high mortalities reported in lambs. RVF was also confirmed in Springbok, Bontebok, Waterbuck, Buffalo, Sable, Njala, Gemsbok, Fallow Deer and Llama. Intensive vaccination was applied and is ongoing.

The first outbreak was confirmed by RT-PCR and IMP staining on 12 February 2010.



Reported RVF Outbreaks

- February
- March
- April; May
- Towns



Map compiled by:
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 Directorate: Animal Health
 10/05/2010



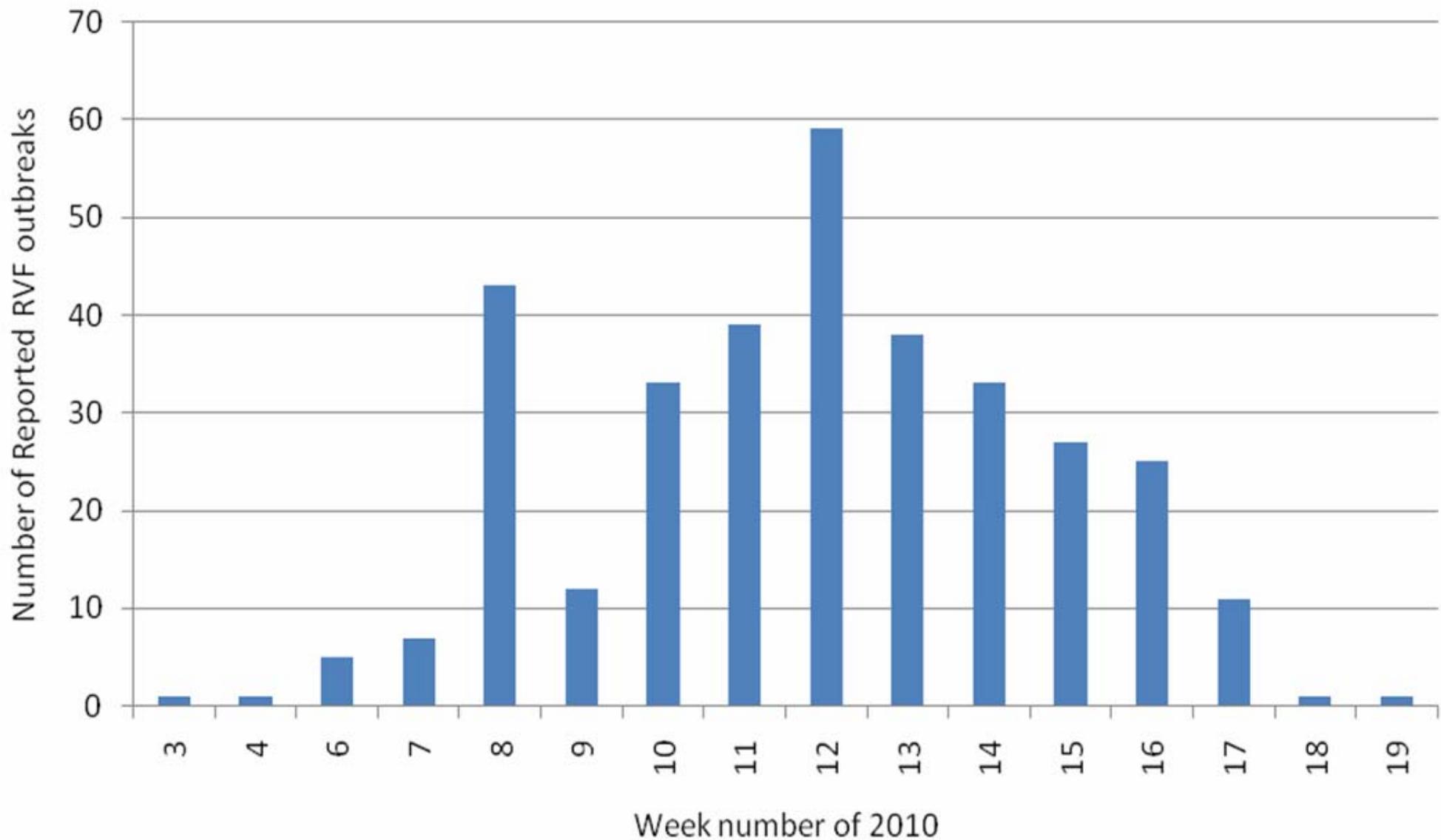
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RVF outbreaks: 2010

- The current RVF outbreak was confirmed by laboratory tests on 18 February 2010 and probably started during the middle of **January 2010** in the Bultfontein area of the Free State Province.
- A total of **329** outbreaks have been reported until 6 May 2010, with more than 10 000 animal cases and more than 6 300 animal deaths. Approximately 3% of sheep and 1% of cattle have died on the infected farms.
- Sheep are by far the most affected species, with some cattle and a few goats also affected.
- The Free State Province is the worst hit by the disease, followed by the Northern Cape and the Eastern Cape Provinces.
- A few outbreaks have been reported in the North West, Western Cape, Gauteng and Mpumalanga Provinces.

Number of outbreaks of Rift Valley Fever per week of 2010



RVF IN GAME

- Reports of Springbok and Blesbok deaths and abortions in the 1975 RVF outbreak are available but were never proven by laboratory tests.
- The following outbreaks in game were confirmed in the current RVF outbreak:
 - Springbok (FS and NCP)
 - Buffalo (FS and NCP)
 - Sable (FS)
 - Nyala (NCP)
 - Eland (NCP)
 - Waterbuck (FS)
 - Bontebok (NC)



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RVF IN EXOTIC SPECIES

- The following outbreaks in exotic species were confirmed in the current RVF outbreak:
 - Fallow Deer - (FS)
 - Llamas (FS)
 - Alpacas (WCP)



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RVF CONTROL MEASURES

- RVF is not a controlled disease but it is a notifiable disease according to the Animal Diseases Act (Act 35 of 1984)
 - Farmer or private veterinarian reports to state veterinarians
 - Emergency reports to the National office
 - Monthly reports from Provinces to National office
 - International reports to (World Organisation for Animal Health) OIE and SADC



RVF CONTROL MEASURES

- Farmers are well advised to vaccinate sheep and cattle (and goats) regularly in high-risk areas, esp. in years of high rainfall.
- Live attenuated and inactivated vaccines are available from Onderstepoort Biological Products.
- Farmers are also advised not to move their animals while an outbreak is ongoing and to adhere to good biosecurity practices.
- The State Veterinary Services give support by giving information and advise to farmers.
- State Veterinary Services supply some vaccine to upcoming farmers and support vaccine campaigns in non commercial domestic animals.
- Private owners are responsible for the vaccination of commercial domestic animals.



INFORMATION DISSEMINATION

- Attendance by DAFF of National Outbreak Response Team (Department of Health) meeting on weekly basis
- Free State Director of Veterinary Services on Radio-10 March 2010
- DAFF prepared press releases from 11 March- some did not make it in print
- DAFF/PROVINCES/OVI/OBP meet in Bloemfontein 30 March 2010
- Provincial coordination with DoH- farmers days and information sessions with professionals
- RVF discussions by Veterinary Directors at the ITCA Veterinary Working Group meeting 7 April 2010
- DAFF/ DOH meeting 5 May 2010- lessons learned



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ADVICE THAT WAS GIVEN TO FARMERS

- The sms on the Free State outbreak was followed-up by a media statement on the 1st of March urging farmers to vaccinate
- On the 11th of March, another sms was sent out now urging farmers to report RVF
- Farmers started reporting and follow ups were done of each report.
- By this time, EC was also reporting outbreak



CONSEQUENCES OF RVF OUTBREAKS ON EXPORTS

- Namibia indicated that a ban on the import of live ruminants, meat and meat products of domestic- and wild ruminants has been imposed until further notice. Cooked or canned meat products are excluded. There is no ban on pasteurised dairy products.
- Lesotho banned the importation of live ruminants and indicated that meat may be included in this ban in future.
- Botswana requested information from SA to enable them to consider suspension of importation in order to mitigate risks appropriately.



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CONSEQUENCES OF RVF OUTBREAKS ON EXPORTS

- Ban on exports of wool to China as well as hides and skins to Turkey and China, although wool and hides and skins are internationally recognised as products with no risk of transmitting RVF.
- Trade restrictions were implemented on the export of beef to Saudi Arabia and the United Arab Emirates (UAE).
- Zimbabwe implemented a ban on the import of all live ruminants and their products. This ban was unscientifically extended to include poultry, pets and pet food.



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CONCLUSION

- RVF **occasionally** surfaces in South Africa, in years with high specific rainfall patterns and favourable climatic conditions.
- Vaccine bank.
- The success of control of RVF in South Africa lies in **vaccination** of all weaned ruminants with live attenuated RVF vaccine
 - To ensure a ruminant population immune to RVF
 - To maintain vaccine production at an acceptable level to ensure adequate stock at all times.
 - To mitigate risk due to the possible effects of climate change.



ACKNOWLEDGEMENT

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