

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

April 2016

Previous disease reports can be seen on the RuVASA website www.ruvasa.co.za

Click on Disease Reports

The following practices and laboratories (136) submitted reports during April 2016:

Mpumalanga (13)

Balfour – Dr. Louis van Jaarsveld
Bethal – Dr. Hardus Pieters
Delmas – Dr. Johan Jooste
Ermelo – Dr. Ben Potgieter
Grootvlei – Dr. Neels van Wyk
Karino (Nelspruit) – Dr. Silke Pfitzer
Lydenburg – Drs. Trümpelmann and Steyn
Nelspruit – Dr. André Beytell
Middelburg – Drs. Fourie, Malan and Erasmus
Piet Retief - Drs. Niebuhr and Weber
Standerton – Dr. Kobie Kroon
Standerton – Drs. Nel, Swart, Van der Merwe, Van den Berg and Geral
Volksrust – Drs. Watson and Solomon

Gauteng (7)

Bronkhorstspuit – Drs. De Bruin, De Bruin, Rudolph and Slabber
Krugersdorp – Dr. Clare Speedy
Magaliesburg – Dr. Ryan Jeffery
Muldersdrft – Dr. Claire Speedy
Nigel – Dr. Cindy van der Westhuizen
Onderstepoort Veterinary Academic Hospital – Proff. Annandale, Prozesky, Shakespear, Holm and
Drs. Esposito, Gratwick, Hamman, Harmse and O’Dell
Pretoria – Dr. Hanneke Pienaar

Limpopo (8)

Bela Bela – Drs. Du Toit and Herbst
Bela-Bela – Dr. Nele Sabbe
Lephalale (Ellisras) – Dr. Brigitte Luck

Makhado (Louis Trichardt)– Drs. Harris, Klopper and Jacobs
Modimolle (Naboomspruit)– Drs. Huber, Bredell and Barnard
Mokopane (Potgietersrus) - Dr. Henk Visser
Polokwane (Pietersburg) – Drs. Watson, Viljoen, Jansen Van Vuuren, Van Rooyen, Snyman and Cremona
Vaalwater - Dr. Hampie van Staden

North West (10)

Brits – Drs. Boshoff and Coertze
Christiana - Dr. Pieter Nel
Klerksdorp – Drs. Van den Berg and Theron
Klerksdorp – Drs. Coetzee and Venter
Leeudoringstad - Dr. Ian Jonker
Lichtenburg – Dr. Fritz Ras
Lichtenburg – Dr. Nelmarie-Krüger-Rall
Rustenburg – Drs. Gaigher, Grobler, Sparks, Van Edom, Van Rooyen, Goosen and Van Rensburg
Stella - Dr. Magdaleen Vossler
Ventersdorp/ Koster – Drs. Marais and Benadé

Free State (26)

Bethlehem – Drs. Strydom and Strydom
Bethlehem – Dr. J.C. Du Plessis
Bloemfontein – Dr. Stephan Wessels
Bothaville – Dr. Johann Blaauw
Bultfontein – Dr. Santjie Pieterse
Clocolan – Dr. Liezel Wasserman (Marwick)
Dewetsdorp – Dr. Marike Badenhorst
Ficksburg – Drs. Kotze and Coetzer
Frankfort - Drs. Lessing, Cilliers and Janse van Rensburg
Gariepdam – Dr. Marni Strauss
Harrismith - Drs. Pretorius, Bester and Nel
Hertzogville – Dr. Nico Hendrikz
Hoopstad - Dr. Kobus Pretorius
Kroonstad – Drs. Daffue, Eksteen, Van Zyl and Van der Walt
Ladybrand/Excelsior - Drs. De Vos and Nel
Memel – Drs. Nixon and Nixon
Parys – Drs. Wessels and Wessels
Phillipstown – Dr. Stephan Vermeulen
Reitz - Dr. Murray Smith
Trompsburg/Springfontein – Dr. Wyn Irwin
Viljoenskroon - Dr. Johan Kahts
Villiers – Drs. Hattingh and Hauptfleisch
Vrede – Drs. Myburgh and Bester-Cloete
Vrede- Dr. Rudolph Fourie
Wesselsbron –Dr. Johan Jacobs

Zastron – Drs. Troskie and Strauss

KwaZulu-Natal (19)

Bergville - Dr. Ariena Shepherd

Bergville – Dr. Jubie Muller

Camperdown – Dr. Anthony van Tonder

Dundee – Drs. Marais and Fynn

Estcourt – Drs. Turner, Tedder, Taylor, Tratschler, Van Rooyen and Alwar

Greytown – Dr. Mike Caldicott

Howick – Drs. Hughes, Lund, Gordon, Allison and Taylor

Ingogo – Dr. Trish Oglesby

Kokstad- Drs. Clowes and Shrives

Mkuze – Dr. Mike Toft

Mooi River - Drs. Fowler, Hartley, Waterman and Mallet

Mtubatuba – Dr. Trever Viljoen

Newcastle – Dr. Barry Rafferty

Pietermaritzburg – Dr. Rick Mapham

Pietermaritzburg – Dr. Phillip Kretzmann

Pongola – Dr. Heinz Kohrs

Underberg - Drs. Collins, King and Delaney

Underberg – Drs. Dommett and Dommett

Vryheid – Drs. Theron and Theron

Eastern Cape (18)

Alexandria - Drs. Olivier and Dreyer

Aliwal North/Zastron – Drs. Troskie and Strauss

Bathurst – Dr. Jane Pistorius

Colesberg – Drs. Rous and Rous

Cradock – Dr. Frans Erasmus

Cradock – Dr. Ilse Jenkinson

Graaff- Reinet - Dr. Roland Larson

Graaff-Reinet – Drs. Hobson, Strydom and Hennesy

Humansdorp - Drs. Van Niekerk, Jansen Van Vuuren, Barker and Kotze

Jeffreys Bay – Drs. Hoek, Lategan and McFarlane

Kareedouw- Dr. Marten Bootsma

Middelburg/Steynsburg – Drs. Van Rooyen and Viljoen

Port Alfred – Dr. Leon de Bruyn

Queenstown - Drs. Du Preez, Godley, Klopper, Jansen van Vuuren, De Klerk and Catherine

Riversdale – Drs. Du Plessis, Taylor, Du Bruyn and Van der Merwe

Stutterheim - Dr. Dave Waterman

Uitenhage – Drs. Mulder and Krüger

Western Cape (20)

Beaufort West - Drs. Pienaar and Grobler

Caledon – Drs. Retief and Rissik

Ceres – Drs. Pieterse, Wium, Freeman, De Villiers and Scheepers
Darling – Drs. Van der Merwe, Adam and Senekal
George - Drs. Strydom, Truter and Pettifer
Heidelberg – Dr. Albert van Zyl
Malmesbury – Dr. Otto Kriek
Malmesbury – Dr. Markus Fourie
Malmesbury - Drs. Bosman and Groenewald
Malmesbury – Dr. N.J. Heyns
Oudtshoorn – Dr. Glen Carlisle
Oudtshoorn – Dr. Adriaan Olivier
Piketberg – Dr. André van der Merwe
Plettenberg Bay – Dr. André Reitz
Plettenbergbay – Dr. Stephan Nell
Riversdale – Drs. Du Plessis, Taylor and De Bruyn
Stellenbosch – Dr. Alfred Kidd
Swellendam – Drs. Malan and Venter
Vredenburg - Dr. Izak Rust
Wellington – Dr. William van Zyl

Northern Cape (7)

De Aar – Dr. Donald Anderson
Calvinia – Dr. Bertus Nel
Jan Kempdorp – Dr. Jan Brand
Kathu – Dr. Jan Vorster
Kimberley – Drs. Van Heerden and Swart
Kimberley – Dr. Trudie Prinsloo
Upington – Drs. Vorster and Visser

Feedlots (2)

Drs. Morris and Du Preez
Dr. Andy Hentzen

Laboratory reports (6)

Dr. Mark Chimes - Deltamune laboratory
Dr. Marijke Henton - Idexx SA Johannesburg
Dr. Liza du Plessis – Idexx SA Onderstepoort
Dr. Alan Fisher – Queenstown Provincial laboratory
Dr. Rick Last – Vetdiagnostix, Pietermaritzburg
Dr. Emily Lane – National Zoological Gardens

Summary of disease report for April 2016

134 Reports from veterinary practices and laboratories were received (Mpumalanga (MP) 13; Gauteng (G) 7; Limpopo (L) 8; North West (NW) 10; Free State (FS) 26; KwaZulu-Natal (KZN) 19; Eastern Cape (EC) 18; Western Cape (WC) 20; Northern Cape (NC) 7; Feedlots (FL) 2 and Laboratories (Lab) 6).

Prevention is better than cure

When studying the monthly disease reports one comes to the conclusion that most of the infectious diseases that were reported could have been prevented if animals had been properly vaccinated. Reports that struck me were: “50 cattle died due to blackquarter, animals were not vaccinated”, or “booster vaccination was not given”.

The aim of studying the monthly disease reports is to sit down with your veterinarian and draw up an **animal health management programme** for your farm taking into account what diseases were reported. **This programme should regularly be updated as new risks are identified!**

However there are still reasons why inspite of vaccinating animals, they might still contract diseases and even die!

There are various reasons why immunisation might fail, with the result that the immunised animal is not protected against the disease concerned. No vaccine provides 100% protection to the herd/flock being immunised, as not all animals react as well as the rest. The mere vaccination of an animal gives no assurance that it will be protected against a particular disease. There are various reasons why immunisation can fail and the animal is not protected against the disease or does not develop a sound immunity. Immunisation can fail due to errors during the act of administering the vaccine (vaccination), the vaccine itself not being up to standard or problems with the immunised animal.

ADMINISTRATION OF VACCINE (VACCINATION)

Errors that occur during the administration of vaccines that may result in the development of a weak or no immunity, are:

- **Wrong vaccine dosage.** Too little vaccine can be administered purposefully or due to a defective automatic syringe. Do not administer a smaller dose of vaccine than is recommended. These animals will develop a weak or insufficient immunity.
- **Vaccinating at the wrong age.** Animal can be immunised at too young an age, such as vaccinating two week-old calves against malignant oedema. This will result in the development of a weak or no immunity, despite the vaccination.
- **Vaccinating during a disease outbreak.** By, for example, vaccinating cattle that seem quite healthy but are in the incubation period of lumpy skin disease during an outbreak of this disease, will not provide them with protection or prevent them from contracting the disease.

- **Neglecting to give a booster vaccination.** Cattle that are immunised against, for example, botulism, blackquarter, malignant oedema or Rift Valley Fever (inactive vaccine) for the first time in their lives, must be inoculated a second time after three to four weeks, otherwise they will not develop a sound immunity and are therefore not protected against the disease for which they are being immunised.
- **Live bacterial vaccines and antibiotics.** Antibiotics should not be given at the same time that live bacterial vaccines such as calf paratyphoid, anthrax or *Brucella abortus* vaccines are administered. Animals that have been treated with antibiotics, must only be immunised after the antibiotics have dissipated (the minimum waiting period is three days). Antibiotics will destroy the bacteria in the vaccine and no immunity will develop. In addition, do not vaccinate animals that are being treated with cortisone or certain antibiotics that suppress immunity, as they will not develop a sound immunity.
- **Lack or insufficient colostrum-derived immunity.** Should a newborn calf or lamb not ingest colostrum from its immunised mother (e.g. for colibacillosis) after birth, it will not be protected against the disease.
- **Joint administration especially of live vaccines.** Disruptive interference may occur if too many different live vaccines are administered simultaneously. It is recommended that only one live vaccine (such as for lumpy skin disease, three-day-stiffsickness, live Rift Valley fever or brucellosis) is administered together with two inactivated vaccines (such as blackquarter, botulism or malignant oedema) on the same day. A combination of inactivate vaccines such as those for malignant oedema, counts as only one vaccine.
- **If the annual immunisation programme is not followed precisely.** Annual vaccination against, for example, malignant oedema, ensures that animals develop a sound immunity level. Should annual vaccination be neglected, the animals' immunity will not be optimal and mortalities may occur if the animals become infected.

THE VACCINE

- **Administering expired vaccines.** This is unwise. No assurance can be given that animals immunised with expired vaccines, will develop an immunity against the disease concerned.
- **Administering badly mixed liquid vaccines.** Ensure that the vaccine in the bottle is mixed well by gently shaking the bottle to the side a few times before the vaccine is drawn into the syringe and injected.
- **Damage to the vaccine.** Vaccines can be damaged through exposure to heat, direct sunlight or freezing (only liquid vaccines).
- **Correct diagnosis of diseases.** Should an incorrect diagnosis be made and, as a result, the animals are immunised against the wrongly-diagnosed disease, they will not be protected

against the actual disease. Ensure that a veterinarian makes a diagnosis of the disease or the cause of death.

- **Non-adherence to prescribed mixing instructions for a vaccine.** The liquid obtained when the freeze-dried clot (active ingredient of the vaccine) is mixed during the “water phase”, must be mixed with the “oil phase” by drawing it in and out of the syringe from the bottle at least 15 times. The vaccine (an emulsion) is then ready for use (vaccination).

THE ANIMAL

- If a young animal is immunised too early in its life, e.g. vaccination of a calf against blackquarter at one week of age, the colostrum-derived immunity will prevent the development of an active immunity.
- Animals that are immunised while in poor condition due to drought (starvation), disease, worm infections or deficiencies (such as protein, vitamins or minerals) will not develop a sound immunity.
- The immune system of an immunised animal exposed to a massive amount of disease-causing organisms, can become overwhelmed and the animal may then develop the disease and die e.g. botulism toxin.
- Certain animals simply do not immunise well. In a herd or flock there are usually a few animals that do not immunise well and become susceptible to the disease concerned.

Reference:

Du Preez, J.H. and Malan, F.S. 2012. Vaccines and immunisation of farm animals. AgriConnect. ISBN: 978-0-620-38932-7.

Hierdie boek is ook in Afrikaans beskikbaar en kan bestel word by helene@mpo.co.za

Report from Dr. Johan Jooste, veterinary consultant (Delmas) drjohanjooste@gmail.com

- Abortions without diagnosing the exact cause is a frustration
- Conception percentages in beef cattle is on average 60% due to poor conditions of cows due to drought conditions. Advise farmers to wean the calves early to get cows in better condition.
- Conception is driven by nutrition and I fear there is going to be huge problems for the next calving season in large parts of the country due to lack of food.
- The starch values of silage varies tremendously and nutritionists have difficulty in preparing rations.
- Contagious abortion (*Brucella abortus*) testing is a huge problem due to area laboratories that are not accredited. Results get lost in the system. Responsibility is not accepted and infected herds in some cases are not properly managed by the state veterinary service.
- **Vaccinations with Brucella Strain 19 which is to be given between 4 and 8 months to all heifers by law is not administered by farmers.**
- **Johne's disease is diagnosed in more and more dairy herds. Frustrated herd owners are having problems with the State not becoming actively involved in controlling this disease.**

- The financial position of dairy farmers are extremely poor and a few are making money or break even.

Newsletter from Dr. Francois de Villiers, Humansdorp

Non steroidal anti-inflammatory drugs (NSAIDS) – contact your veterinarian as these drugs are only available on prescription)

The role of non-steroidal anti-inflammatory drugs [NSAIDS] such as Metacam, Finadyne and Rimadyl in improving production:

1 Clinical Mastitis

Inflammation of any tissue in the body causes the release of prostaglandin and other chemicals in the body which interfere with fertility. The addition of a NSAID to the treatment protocol for clinical mastitis therefore indirectly reduces culling rates for poor fertility.

Administering a longer lasting NSAID yields a positive return on investment.

2 Dehorning..

Administering a NSAID at the time of dehorning improves growth weight.

3 Dystocias

Administering a NSAID to any cow whose calf has been pulled, provides various benefits including increased dry matter intake and colostrum production.

Administration of the NSAID to the pulled calf also gives positive effects such as increased colostrum intake and weight gain.

TRACE MINERALS

Zinc plays an important role in the prevention of lameness and mastitis, but we have a problem in getting sufficient zinc levels in the animal. Speak to your veterinarian how this can be achieved. Remember to monitor zinc levels by taking liver samples as an overdose of zinc could be toxic.

TEN DEADLY SINS OF DAIRY - which can be deadly to your animals and to your profits!

These shortcomings are all management related. They relate to very basic management procedures which, obviously, should be carried out but which, regrettably, are often neglected to the dairy farmer's and his cows' detriment.

Judge yourself: What is your score for compliance with good practise?

G = GOOD S = SATISFACTORY P = POOR

CALVES

- Not ensuring that calves get 2ℓ colostrum **within 2 hours** of birth [the intestinal lining is open for colostrum **and** bacteria such as *E.coli* for 6 hours – which gets in first??]
- Not protecting calves from **wind chill**, before and/or after weaning [shade cloth is cheap and can be replaced after 3-4 years]

LAMENESS

- Not foot bathing in wet periods [when pastures and walk-ways are wet for an extended period and soles become soft].
- Not lifting feet for inspection **immediately** when a cow is seen to be lame [look for stones between the hoofs **before** injecting antibiotics!!]
- Allowing staff to chase cows to and from parlour [this puts pressure on cows walking at the back of the herd, they then cannot see where to tread and therefore cannot avoid sharp stones which pierce their soles or white lines or bruise their feet]

IGNORING BIOSECURITY

- Buying [or renting] bulls without veterinary **certificates** [not relying on livestock agents' assurances which are often lies] for freedom from TB, CA, Trichs, Vibrio, EBL, BVD and Johnes's
- Not following a **vaccination** programme developed for your area and farm by your herd veterinarian.
- Not issuing **visitors** with disposable footwear covers [best option] or having foot dips for gumboots.

PARLOUR

- Poor application of **teat dip** [poor compliance despite SOP's]
- Allowing staff to **shout** in the parlour and **hit** cows with plastic pipes

Perspectives on how to approach the Johnes "outbreak" on a farm in the Humansdorp area

"Outbreak" implies a rapid spread of a disease and is probably an inappropriate term in this situation as Johnes may have been present on farm X for several years. The bacterium may therefore have been inadvertently **spread to other farms over several years**. Alternatively the disease might have been imported to an adjoining farm from where it spread to farm X.

The Farm X lactating herd crosses the public road walking from pastures to the milking parlour up to four times daily defaecating on the road in the process. All vehicles, pedestrians, animals and birds coming in contact with the faeces have been and are potential carriers of the disease.

Given the disjointed provincial approach to disease control enshrined in the Constitution of the Republic of South Africa, there is an absence of an efficient and pro-active national state veterinary department with adequate powers and funding to eradicate erosive diseases such as Johnes, EBL and BVD, not to mention TB and CA. It is therefore unlikely that much help will be forthcoming from State Veterinary Services.

An increase in the number of animals affected by internal parasites was reported during April especially in areas where late rain fell. Mortalities due to wireworm infestation were reported.

Be on the alert for signs indicating internal parasitism: anaemia, bottle jaw, weight loss and diarrhoea. Animals under stress and lack of protein and energy, are more susceptible to parasites.

As resistance of worms, especially wireworm, to many of the anthelmintic groups are reported, control and preventative measures against parasites should be discussed with your veterinarian to prevent serious losses of livestock.

External parasites

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

External parasites	MP	G	L	NW	FS	KZN	EC	WC	NC
Blue ticks	x	x	x	x	x	x	x	x	
Resistant blue ticks	x				x	x			
Heartwater ticks	x	x	x	x	x	x	x		
Brown ear-ticks	x	x	x	x	x	x		x	
Bont-legged ticks	x	x	x	x	x	x	x		x
Red-legged ticks	x			x	x	x		x	
Paralysis ticks					x		x		
Biting lice	x				x				
Sucking lice					x				
Itch mites									
Sheep scab	x					x			
Mange mites		x							
Nuisance flies	x			x	x	x	x	x	
Midges	x			x	x				
Mosquitoes					x				
Blowflies	x		x		x			x	
Screw-worm			x			x			
Gedoeelstia (uitpeuloogsiekte)									
Nasal bot		x		x	x				x

Reports of an increase in tick numbers were received especially where late rains fell. As many animals are in poor condition, bloodloss due to blue ticks taking in blood meals could result in serious losses.

In most areas severe infestations of brown ear-tick and bont-legged tick infestations were reported.

Be aware of wounds that are caused by ticks with long mouth parts (bont and bont legged-ticks) as the screw-worm fly lays its eggs in these wounds leading to myiasis (screw-worm larvae in wounds) and even deaths.

Selection for resistant blue ticks are an ever increasing problem. Discuss your ectoparasite control program with your veterinarian. Tick resistance to the various actives is increasing and it is advised that blue ticks on your farm should be tested for resistance!

Tick borne diseases

The following tick borne diseases were reported by practices in the provinces:

Tick borne diseases	MP	G	L	NW	FS	KZN	EC	WC	NC
African red water	x	x	x	X	x	x	x	x	
Asiatic red water	x	x	x		x	x	x	x	
Anaplasmosis	x	x		X	x	x	x	x	
Heartwater	x	x	x	X	x	x	x		
Lumpy skin disease	x	x	x	X	x	x			
Corridor disease	x					x			
Theileriosis						x			

Tick borne diseases are rife due to tick numbers increasing during the summer months. Susceptible animals are also moved into red water and heartwater areas. Infected ticks are also transported with grass bales from infected areas. Vaccines are available to control most of these tick transmitted diseases. **Discuss preventative measures with your veterinarian.**

The following tick toxicoses were reported by practices in the provinces:

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

Sweating sickness is caused by the toxin secreted by the bont-legged tick. They like to attach in the tail brush and therefore this area should be treated as well.

Insect transmittable diseases

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

Insect transmittable diseases	MP	G	L	NW	FS	KZN	EC	WC	NC
Lumpy skin disease	x	x	x	X	x	x			
Ephemeral fever (Three day stiff sickness)	x	x		X	x	x			x
Blue tongue	x	x	x	X	x	x	x	x	x
Rift Valley Fever									
Wesselsbron									
Nagana									

An increase in the occurrence of insect transmissible diseases were reported. This was due to an increase of midges and biting flies which are carriers of viruses.

Do not neglect vaccinating animals! As good rains are forecasted for the next season, plan now to order vaccines in time.

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	x	x	x	x	
Vibriosis				X	x				
Pizzle disease				X			x		x

New cases of **trichomonosis** are reported every month and this disease is out of hand. This month it was reported that the disease was brought into the herd by buying in bulls. Make sure that you buy bulls from farmers where biosecurity measures are in place!

Make sure that fences are in tact and gates closed so that bulls cannot escape to neighbouring cows that may be infected with *Tritrichomonas* and become infected.

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.

Bacterial diseases

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

Bacterial diseases	MP	G	L	NW	FS	KZN	EC	WC	NC
Blackquarter	x	x	x	X	x	x	x		x
Botulism	x			x	x				
Pulpy kidney	x	x	x	x	x	x	x	x	x
Lamb dysentery	x								
Swelled head		x							
Red gut (cattle)	x				x		x		
Blood gut (sheep)	x		x		x	x	x		
Tetanus					x				
Salmonellosis						x	x		
Bovine brucellosis	x		x	x	x				x
Ovine brucellosis					x				x
<i>Actinobacillus seminis</i>									
Bovine tuberculosis									
Johne's								x	
Leptospirosis							x		
Listeriosis									
<i>Pseudomonas</i>									
<i>Fusibacterium necrophorum</i>		x			x				
Septicaemia						x		x	x
<i>E. coli</i>	x	x		x	x	x	x	x	
Enzootic abortion					x		x	x	
Lumpy wool							x		

Uterine gangrene									
Bovine dermatophilosis (Senkobo disease)									
Wooden tongue									
Lumpy jaw								x	

A few comments on bacterial diseases:

Fifty cattle died due to blackquarter in one practice area – they were not vaccinated.

Small stock are given additional concentrates and feed during the drought. Make sure that animals are vaccinated against pulpy kidney as many deaths were reported.

New brucellosis and *E. coli* outbreaks are reported every month.

Study the presence of diseases in your area and update your vaccination programme and order vaccines and booster doses in advance!

To control and eradicate brucellosis is a top priority for all of us!

According to law all heifers must be vaccinated between the ages of 4 to 8 months!

Viral diseases

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

Viral diseases	MP	G	L	NW	FS	KZN	EC	WC	NC
BMC (snotsiekte)	x		x	x	x	x	x		
Rabies						x			
BVD				x		x			
IBR	x			x	x	x			
BRSV	x								
PI3									
Maedi visna virus							x		
Rotavirus / Coronavirus									
Enzootic bovine leucosis (EBL)						x		x	
Sheep leucosis									
Jaagsiekte					x		x		
Orf	x			x	x	x	x	x	
Warts	x		x	x	x	x	x	x	

There is no treatment for viral diseases with the result that animals have to be protected by vaccinations if they are available.

There is not a vaccine available against snotsiekte. This deadly virus is associated with wildebeest but remember there is also a sheep associated strain. Wildebeest sheds the virus especially during

Lusern									
Mycotoxicosis						x		x	x
Diplodiosis									
Lupins									x
Harpuisbos									
Syringa berries									
Kraalbos									
Crotolaria									
Radish									
Carrot poisoning									
Onion poisoning									
Bracken fern									
Pollen beetle (<i>Astylus atromaculatus</i>)									
Water contamination									
Nitrate									
Urea					x			x	
Snake bite					x			x	
Moth cocoons (impaction)					x				
Blue green algae					x				
Copper					x				
Selenium									
Zinc									
Fluoride									
Lead									
Paraquat									
Phosamine									
Pyrethroid									
Amitraz									
Levamisole									
Tilmicosin									
Ionophor									
Hypo					x				

As grazing conditions become poorer, toxic plants are usually greener and farmers should be aware of these plants and which clinical signs are seen when they are eaten.

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	
Protein	x			x	x	x	x		
Phosphate	x			x	x				
Calcium	x			x		x			

Lack of roughage due to the drought is going to be a big challenge for many farmers until the next rainy season starts. **Plan now!!!!**

Micro-nutritional deficiencies

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

Deficiencies	MP	G	L	NW	FS	KZN	EC	WC	NC
Iodine									
Copper									
Zinc							X		
Selenium				X		X			
Magnesium									
Manganese									
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.

With the drought and lack of proper grazing, mineral deficiencies will increase.

Supplement animals with vitamin A.

Multifactorial diseases and other conditions

The following conditions were reported by practices in the provinces

Multifactorial diseases and other conditions	MP	G	L	NW	FS	KZN	EC	WC	NC
Abortions	X	X		X	X	X	X	X	
Stillbirths	X				X	X			
Abscesses	X	X	X	X	X	X	X	X	X
Intestinal ulcers									
Bladder stones					X		X		
Blindness					X	X	X		
Bloat				X	X	X		X	
Blood gut (sheep)					X				
Blue udder		X			X		X	X	
Diarrhoea	X		X	X	X	X	X	X	
Epididymitis									
Eye cancer					X	X	X	X	
Eye infections	X	X	X	X	X	X	X	X	
Joint ill	X				X	X		X	
Lameness/foot problems	X	X	X	X	X	X	X	X	
Lung infection	X	X	X	X	X	X	X	X	
Mastitis	X		X	X	X	X		X	

The drought and heat experienced play a huge role in fertility. Fertility of animals is one of the most important factors determining the success of farming. Discuss all issues with your veterinarian.

Environmental conditions

	MP	G	L	NW	FS	KZN	EC	WC	NC
Exposure to cold				x		x	x		
Heat stress									
Lightning	x				x		x		
Drought					x		x		

Other conditions: Drug residues (KZN), predators (FS); theft (FS), electrocution (EC), and trauma (NW, EC and WC) and numerous cases of traumatic pericarditis – wire penetrating the heart sack from the reticulum.

Cattle were electrocuted at a pivot when it was not earthed correctly. This is the second case this year that this has happened.

Comment:

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

Bela-Bela – Dr. Nele Sabbe

Bethlehem – Dr. J.C du Plessis

Pietermaritzburg – Dr. Rick Mapham

Jan Kempdorp – Dr. Jan Brand

Kimberley – Dr. Trudie Prinsloo

Malmesbury – Dr. N.J. Heyns

Mkuze – Dr. Mike Toft

Plettenberg Bay – Dr. Stephan Nell

Ostriches

Western Cape

Oudtshoorn – Ostrimed

Condition	Comments
Bont-legged ticks -3	High tick incidence which leads to down grading at abattoir due to export regulations. Bad season for ticks so far.
Tapeworms -2	Interesting is chicks returning from growers have a high infection. Dosing results in partial obstruction with reduced feed intake. Small lesions from detached heads more susceptible to clostridial infections. Some products have a bad reputation to induce as well.
Mycoplasmosis -2	Change in season – temperature fluctuations and wind. Increased dust. Most chicks have a sinusitis/ rhinitis and tracheitis. High morbidity increasing production losses – slower growth. Dusty environment due to high heat and dry environment. Wind every afternoon. Dust bowl effect. Together with challenges on nutrients and stress. Opens door for <i>Mycoplasma</i> .
Diarrhoea -2	Soil pica, wet soil triggers opportunistic bacterial infections. Heat triggers <i>Clostridium</i> due to overflow of nutrients into the hind gut fermenting system.
Protein /Energy deficiency -2	Rain and sudden drop in temperature. Leads to feed refusal of badly managed feed troughs and feeding. Increased soil pica, High energy demand for chicks that have been placed late in the season. Reduced feed intake, all contribute to diarrhoea – sand irritation and fecal bacteria. Insufficient nutrient intake, stress on immune system and growth. Opportunistic bacteria or other infections, chronic low grade <i>C. perfringens</i> infection. Gut damage.
Cold and wet	Birds have significantly reduced feed intake, resulting in energy and protein deficiency – poor growth and any stress e.g. handling or slightly cold weather causes acute mortalities due to PED = protein energy deficiency
Midges and fly worry -2	Sporadic hot weather stimulates insect population booms.
Red gut and pulpy kidney -3	Sporadic warm weather results in lucern blooms which are susceptible to wilting. Higher intake of such pastures result in clostridial overgrowth.
Ophthalmia - 2	
Sinusitis - 3	
Cold exposure -2	

Equines

Mpumalanga

Lydenburg

Eye problem - 1

Gauteng

Muldersdrif

African Horse Sickness – 1

Encephalosis virus – 1

Limpopo

Mokopane – Dr. Henk Visser

Brown ear-ticks - 1

Makhado

African Horse Sickness – 4 cases

Modimolle

Snake bite – few cases

Vaalwater

African Horse sickness at Groenfontein Plots

Free-State

Bethlehem

Colic – 1

Gariepdam

Seneciosis - 2

KwaZulu-Natal

Vryheid

African Horse sickness – more than 20 horses died.

Eastern Cape

Humansdorp

Babesiosis - 1

Western Cape

Swellendam

Abscess -1

Babesiosis – 1 case

Swine

North West

Lichtenburg

Diarrhoea – 2 15 kg piglets with E.coli

Western Cape

Swellendam

Salt poisoning

Game

Mpumalanga

Karino

Coccidiosis – Outbreak of coccidiosis in Wildebeest in a boma

Malnutrition- White rhino cow and calf died due to malnutrition. Veld in horrific condition especially for grazers in some parts of KZN and Mpumalanga.

Lydenburg

Screw-worm - 1

Gauteng

Magaliesburg

Flystike wounds – 3

Theileriosis – 2

Blackquarter (*Clostridium chauvoei*) – American bison

Blackquarter – Water buffalo

Pretoria -A nimavet

Tapeworms - 1

Brown ear-tick – 3

Coccidiosis – 1

Lameness - 1

Eye problems -2

Limpopo

Bela-Bela

Intestinal roundworms – 1

Dystocia – 2 Buffalo

Makhado

Wireworm – Sables, impala more than 20

Modimolle

Internal parasites – Copper springbok with lungworm and wireworm. Took dung samples from all animals in camp, had high faecal egg counts, 8 hectare camp with about 40 springbok adjacent to a sheep camp. Specific camp was used for 40 years as a sheep camp. Trying to persuade owner to move animals to a larger camp.

Eye problems – Nyala with *Moraxella bovis* outbreaks.

Snake bite – numerous snake bites in antelopes, mostly mambas

Mokopane

Intestinal roundworms

Blue ticks - 1

Heartwater tick – 2

Brown ear-ticks - 1

Bont-legged ticks – 1

Blowflies – 1

Screw-worm – 2

Blackleg – 1

Capture myopathy - 1

Polokwane

Bont-legged tick -3

Coccidiosis – 1
Lungs -2
Diarrhoea -2

North West

Klerksdorp

Red-legged ticks – 3
Lungs – 3 Pneumonia in nyala after cold spell
Trauma -1 Springbok broken neck
Ophthalmia – calf with severe eye infection (*Moraxella?*)

Lichtenburg

Blue ticks - 3
Heartwater ticks – 2
Brown ear-ticks – 1
Bont-legged ticks – 2
Red –legged ticks – 3
Red gut – 1
Lameness -2
Lungs – 1
Long hooves - in animals in Kalahari Sandveld
Trauma – Buffalo with broken hind leg, gemsbok wit fractured for leg

Free-State

Bloemfontein

Capture myopathy – One springbok

Gariepdam

Capture myopathy – 2 waterbuck

KwaZulu-Natal

Pongola

Brown ear-tick – Pulpy kidney - 1
Protein deficiency – 2 (terrible drought)
Energy deficiency - 2 (terrible drought)

Western Cape

Oudtshoorn

Capture myopathy - 1 Sable

Northern Cape

Upington

Stress related – Rhino mother and 2 calves died during transport. Cow fell in crate and smothered.

Monthly report on Livestock and Wildlife isolations for April 2016 from Vetdiagnostix –Microbiology Laboratory, supplied by dr. Marijke Henton (henton@vetdx.co.za)

Respiratory disease in cattle yielded 7 cases each of *Pasteurella multocida* and *Histophilus somni*, 6 of *Mycoplasma*, 4 each of *Mannheimia haemolytica* and *Mannheimia* 8, one of *Mannheimia* 10, and one of *Trueperella pyogenes*.

Cases of mastitis yielded mostly *E. coli* and *Enterobacter*. One farm yielded 17/28 samples of ESBL positive *E. coli* and *Enterobacter*. Extended Spectrum Beta Lactamase strains are difficult to detect using the usual laboratory tests. Such strains are resistant to all the penicillins and cephalosporins. The different Enterobacteriaceae, such as *E. coli*, *Klebsiella*, *Enterobacter* and *Salmonella*, can easily exchange the resistance factor amongst themselves, and all are zoonotic. It is a very serious problem when such strains are present on a farm, particularly when they cause mastitis, as most mastitis treatments are based on the penicillin/cephalosporin group. ESBL positive bacteria were also isolated from a case of bovine septicaemia, and from the thoracic fluid of a horse.

Necrotic myositis in cattle was caused by *Clostridium novyi*, and enteritis was caused by *E. coli* [3] and *Clostridium perfringens* in cattle.

A case of abortion in sheep was caused by *Coxiella* [Q fever] and enteritis in 3 cases was associated with *Cryptosporidium* and *E. coli*. A goat yielded *Trueperella pyogenes* and *Prevotella* [anaerobe] from a purulent hoof lesion.

Septicaemia in pigs was caused by *Salmonella Choleraesuis* in one case, and *E. coli* in two. Pneumonia yielded a combination of *Pasteurella multocida* and *Streptococcus dysgalactiae*.

Streptococcus zooepidemicus caused a nasal infection, pyoderma and fistulous withers in horses. A MRSA strain of *Staphylococcus aureus* [also a zoonosis] was isolated from an abscess.

No significant isolates were made from wildlife, except a suspected case of Haemorrhagic Septicaemia in a buffalo and a warthog. The isolate is being typed at Onderstepoort, and will be discussed in next month's report.

Monthly report on Livestock and Wildlife isolations for April 2016 from IDEXX Laboratories supplied by dr. Liza du Plessis (Liza-DuPlessis@idexx.com)

Condition	Comments and Specie
Heartwater tick	G 2
Brown ear-tick	E 1
Red-legged tick	E 1
Heartwater	C,G 2
Theileriosis	G 2
Warts	B 1
Campylobacter abortion	O 1
Abortion	O,C,G 2

Feedlot report received from Dr. Shaun Morris and Dr. Eben du Preez for April 2016 (edupreez1@telkomsa.net)

Sheep feedlots

General conditions occurring:

Enteritis

Pulpy kidney

Blood gut

Injuries – mostly weak animals during transport.

Mal adaptation – especially lighter calves

Pneumonia

Severe wireworm infestation

Coccidiosis

Few *Salmonella* infections

Blue tongue caused a few morbidities and deaths.

Foot rot in wet kraals

Prolapses and urolithiasis (bladder stones)

Cattle feed lots

Morbidities rose after change in weather patterns

Increase in pneumonia cases

Numeous anaplasmosis cases

Heartwater and red water cases

At abattoirs the following were seen: measles, liver fluke, pneumonia, enteritis, pericarditis and liver abscesses.

Foot rot

Arthritis

Vitamien B1 deficiency causing nervous signs

Acidosis and red gut

Warts and ringworm

A case of dermatoparaxis (loosening of the skin) was seen in a Drakensberger

Feedlot report received from Dr. Andy Hentzen for April 2016

(andyvet@mweb.co.za)

Condition	Comments and Specie
<i>Parafilaria</i>	B 1
Blue ticks	B 3
Brown ear-ticks	B 3
Bont-legged ticks	B 2
Red-legged ticks	B 3
Nuisance flies	B 3
Blowflies	B 1
Midges	B 3
African red water	B 3
Asiatic red water	B 3
Anaplasmosis	B 3
Lumpy Skin Disease	B 2
Three day stiff sickness	B 1
Blackleg	B 1
Red gut	B 3
Leptospirosis	B 1
<i>E. coli</i>	B 1
BVD	B 3
Warts	B 3
Water contamination	B 3
Protein deficiency	B 3
Energy deficiency	B 3
Phosphate deficiency	B 2
Copper deficiency	B 2
Zinc deficiency	B 2
Selenium deficiency	B 2
Vitamin A deficiency	B 2
Combination of trace mineral deficiencies	B 3
Abortions	B 1
Poor conception	B 2
Retained afterbirths	B 2
Lameness	B 3
Lungs	B 3
Diarrhoea	B 3
Ophthalmia	B 3
Abscesses	B,C 3

Monthly report for April 2016 from Dr R D Last (BVSc; M.Med.Vet(Path); MRCVS)
Specialist Veterinary Pathologist, Vetdiagnostix - Veterinary Pathology Services

Contributors

Mr Butch Bosch
 Ms Ntando Magoso
 Mrs Beverley Williams
 Ms Nicole Gengan
 Dr Rick Last

WILDLIFE DISEASE SURVEILANCE			
WILDLIFE SPECIES	DISEASE AGENT	NO. CASES	LOCATION
Sable, Antelope Fetus	Infectious hepatitis and in-utero growth retardation	1	Phalaborwa, Mpumalanga
African Penguin	Candidiasis	1	Durban, KZN
Sable Antelope, Adult	Fatty liver - negative energy balance state	1	Grahamstown, E.Cape
Sable Antelope, Calf	<i>Chlamydophila pecorum</i>	1	Modimole, Limpopo
Kudu, Bull	Fibroma	1	White River, Mpumalanga
Zebra, Male	Complicated Equine piroplasmiasis	1	Modimole, Mpumalanga
Duiker, Female	Nutritional cardiomyopathy	1	Oudtshoorn, W Cape
Buffalo, Cow	<i>Pasteurella multocida</i> septicaemia	1	Rooiberg, Limpopo
Warthog, Female	<i>Pasteurella multocida</i>	1	Rooiberg, Limpopo
Giraffe, Neonate	Congenital atelectasis	1	Hoedspruit, Limpopo

LIVESTOCK DISEASE SURVEILANCE			
LIVESTOCK SPECIES	DISEASE AGENT	NO. CASES	LOCATION
Bovine, Holstein Cow	Suspected stephanofilariasis	1	Humansdorp, E.Cape
Bovine, Aborted Fetus	Neospora	1	Howick, KZN
Bovine, Adult Cows	Arsenic poisoning	1	Vryheid, KZN
Bovine Bulls	<i>Tritrichomonas foetus</i>	1	Bergville KZN
Bovine Bulls	<i>Tritrichomonas foetus</i>	5	Bergville KZN
Bovine Bulls	<i>Tritrichomonas foetus</i>	1	Bergville KZN
Bovine, Cow	Cestrum poisoning	1	Viljoenskroon, Free State
Bovine Bulls	<i>Tritrichomonas foetus</i>	2	Bergville KZN
Ovine, Aborted Fetus	<i>Coxiella burnetti</i>	1	Riebeeckstad, Free State
Ovine, Lamb	Cryptosporidiosis	1	Clocolan, Free State
Bovine Bulls	<i>Tritrichomonas foetus</i>	1	Bergville KZN
Bovine Bulls	<i>Tritrichomonas foetus</i>	3	Bergville KZN
Bovine Bulls	<i>Tritrichomonas foetus</i>	2	Bergville KZN
Equine, Mare	Crotalaria poisoning (Jaagsiekte)	1	Hillcrest, KZN

Monthly report for April 2016 from Queenstown Provincial Veterinary Laboratory as supplied by Dr. A.D. Fisher (alan.fisher@drdar.gov.za)

Condition	Area	Comments and Specie
Intestinal roundworms		B,O,C 3
Liver fluke		B,O 3
Coccidiosis		O 3, Avian
Asiatic red water	Queenstown	B 2
Heartwater	Cofimvaba, Ngobo	O2
Blue tongue	Cofimvaba	O 2
Pulpy kidney		O, B 3
Bovine Malignant Catahr		
Rabies	Libode Tsolo Port St Johns Nyandeni Queenstown	Canine 5 positive cases Bovine case
Lameness	Cathcart	O 2
Eye problem		C 1
Jaagsiekte	Whittlesea, Ngobo	O 2
Tulip poisoning		B 2
Prussic acid poisoning		O 1
Acidosis	Silage Finely milled hay	B 2 O 2

B – bovine; O – ovine; C – caprine; P – pigs; G – game

1 = one case; 2 = 2 to 9 cases; 3 = more than 10 cases

Monthly report for April 2016 from Deltamune laboratory Oudtshoorn as supplied by Dr. Mark Chimes (mark@deltamune.co.za)

Disease condition	Specie
Mastitis	B 2
Trichomonosis	B 2

B – bovine; 2 = 2 to 9 cases; 3 = more than 10 cases

Wildlife Pathology Research Programme – National Zoological Gardens.

Information supplied by Dr. Emily Lane (Emily@nzg.ac.za)

22nd March 2016 to 22nd April 2016

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Monthly report:

Cases sent to referring veterinarians between 22nd March and 22nd April 2016

Cases from State vet Skukuza or Orpen

Cases imported with master permit and CITES permits (none)

PMDate	Species	Final	PM No
28-Jan-16	African Wild Dog	None possible (autolysis)	16Z017
28-Jan-16	Axolotl	Bacterial enteritis	16Z015
08-Feb-16	Civet	Disease surveillance (lymph nodes only)	16Z030
08-Feb-16	African Buffalo	Acute heart failure	16Z026
08-Feb-16	Civet	Rabies	16Z029
08-Feb-16	African Buffalo	Unknown	16Z031
08-Feb-16	Impala	None possible (no lesions)	16Z027
08-Feb-16	Impala	Healthy animal (disease monitoring)	16Z028
08-Feb-16	Bat eared Fox	Complications of canine parvovirus infection	16Z025
10-Feb-16	Red faced Mousebird	None possible (autolysis)	16Z032
15-Feb-16	Cheetah	Renal fibrosis, amyloidosis	16Z033
15-Feb-16	Burchell's Coucal	None possible (autolysis)	16Z034
16-Feb-16	Chacma baboon	None possible (autolysis)	16Z036
16-Feb-16	African Buffalo	Tuberculosis monitoring	16Z037
16-Feb-16	Greater Bush baby	Road traffic accident	16Z038
18-Feb-16	South African Fur Seal	Oral and ovarian neoplasia	16Z039
19-Feb-16	Rock Dassie	Suspected dietary maladaptation	16Z035
19-Feb-16	African Buffalo	Salt poisoning	16Z040
26-Feb-16	Indian Blackbuck	Complications of severe dental disease	16Z058
26-Feb-16	Hippopotamus (pending)		16Z052
26-Feb-16	Green Iguana	Suspected hepatic neoplasia	16Z056
26-Feb-16	Greater Flamingo	Hepatic cirrhosis	16Z057
26-Feb-16	Hippopotamus (pending)		16Z051
29-Feb-16	Olive Thrush	None possible (autolysis)	16Z050
29-Feb-16	Lion	Aspiration pneumonia	16Z053
29-Feb-16	Waldrapp Ibis	Ulcerative dermatitis	16Z054B

Kind regards,

Dr E Mitchell (néé Lane)

