THE MANGA

Issue 2 of 2022

OFFICIAL NEWSLETTER OF THE VETERINARY ASSOCIATION OF NAMIBIA

May 2022

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President's Desk

2022 has so far proven quite an interesting year. We see the world hankering to get back to the old way of doing things, the ways before the big C. It feels like there are ample new opportunities for learning and socialising. Within a few weeks' time we will be having the VAN collegial discussion evening, the first of many. We feel that this allows a little bit of a self-discovery mission for each vet taking part. First realising that the topic that is discussed might be one that you have not really thought about; then doing some research to support why you perform that procedure in a certain way, and then finally realising that there are other accepted methods that may also work.

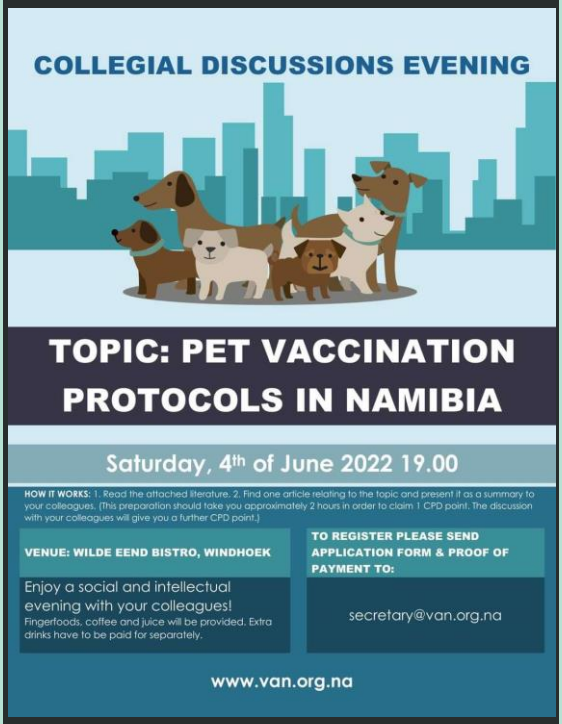
We hope that these evenings bring a culture of growing the veterinary knowledge in Namibia better by using the knowledge we have in the country and making it part of day-to-day practice informally and by active involvement; instead of sitting in a boardroom and having to look at a lecture, as we are so used to doing.

We have released the new VAN vaccination booklets in order to uplift the quality of vaccination record keeping in the country, and bring about a certain feeling of uniformity and excellence in the service we as Namibian Vets render. The team is currently working on the scheduled drugs registers as well to make it easier to fulfil our duties as proper medicine custodians.

There are a myriad of CPD events available this year, some that we organise and many that we facilitate and advertise. Take those opportunities to keep moving forward. May the rest of your year be just as busy as you want it to be and may it provide the opportunity to sit back and look at the sunset as well.

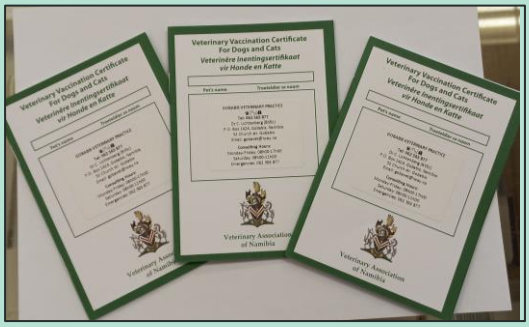
-Dr Theuns Laubscher, VAN President

VAN NEWS



VAN Vaccination Booklets

The official VAN Pet Vaccination Booklets were launched in March 2022 and are already in use in several practices, with positive feedback from many clients**.**



The **VAN Website** received an update this year: www.van.org.na

For any suggestions or improvements, please contact the EXCO.

Upcoming CPD Event

The **VAN Collegial Discussions Evening** will be held on the **4th of June** in Windhoek, at the Wilde Eend Bistro.

This is an attempt to break away from the online webinars and engage in something more fun, social and interactive!

If you do however stay outside of Windhoek and would like to participate, just drop us an email so that we can make arrangements for an online attendance.

Save the Date: VAN Congress 2022

17-19 November 2022 – more details will be distributed in due course

Kudu Oral Rabies Vaccine Trials Phase 3

By Dr Rainer Hassel

Current status of the project

1. Introduction and Background

Rabies in kudu continues to negatively impact the Namibian agricultural sector. Therefore, measures to protect these antelopes were investigated including the use of a third-generation oral rabies vaccine. In a proof-of-concept study some kudu responded to oral vaccination after direct application and were protected against a subsequent rabies infection. Due to the encouraging results obtained from the previous two phases of the Kudu Rabies Research project, it was decided to implement a third phase in the quest to find a solution to this problem in kudu antelope.

2. Objectives

It was decided to limit the objectives for this phase of the study to only two objectives. These were:

a. To compare different doses and application methods of an oral rabies vaccine in order to elicit a *measurable immune response* in captive kudu.
b. To determine the uptake of a bait developed specifically for oral vaccination in kudu and in non-target species under field conditions (Bait depletion studies)

The results obtained from these, would then be used to determine the way forward for the Kudu Rabies Research Project and decide on further activities, if any.

3. Materials and Methods

3.1 Vaccine trial

The vaccine and bait used for this phase were supplied free of charge (including transport) by CEVA Animal Health, Germany. The serological tests were performed by SoVM and Friedrich-Loeffler-Institute (FLI), Federal Research Institute for Animal Health, Germany. FLI also paid for the transport of the serum samples from Namibia to Germany.

The actual implementation of this phase was funded by the Livestock Producers Organization (LPO) being the custodian of all donor funds related to the Kudu Rabies Project.

23 kudu, received on loan from a farmer, were included in the vaccination trial conducted at the newly commissioned Neudamm Veterinary Wildlife Facility of the UNAM School of Veterinary Medicine. The animals arrived at the facility on

09 October 2020, and after an adaption and bait familiarization period were immobilized on 26 October 2020 to have numbered ear tags applied for identification and for the collection of B0 (pre-vaccination) blood samples. Only after the laboratory results, consisting of serum antibody determination were received could the next step in the vaccination of the animals be implemented.

Oral rabies vaccine applications took place between 10 and 13 November 2020. The animals were divided into 2 main groups, one for direct oral application of different doses of vaccine and the second for vaccination application by means of a bait. In order to apply the vaccine directly into the mouth of the experimental animals, they had to be immobilised.
The bait used in the second group consisted of camelthorn pods containing the vaccine filled sachets, since the uptake of the experimental bait during the adaptation period was not satisfactory.

28, 56 and 86 days respectively after vaccination, the vaccinated kudu were immobilized for the collection of B1, B2 and B3 serum samples. At the same time as the collection of the last serum samples, the ear tags were removed and all experimental animals received an additional intra-muscular rabies vaccination. On 11 February 2021 all kudu were transported back to the farm of origin and released.

Figure 1

Figure 1 shows the collection of an intravenous blood sample from an immobilized kudu.

The serological tests performed on the serum samples included both ELISA as well as RFFIT tests. ELISA stands for Enzyme Linked Immunosorbent Assay. The assay is used to detect and measure antibodies, hormones, peptides and proteins in the blood. Antibodies are blood proteins produced by the immune system in response to a specific antigen, for example a virus. The assay helps to examine the presence of antibodies in the body, in case of certain infectious diseases or as a result of vaccination.

RFFIT stands for Rapid Fluorescent Foci Inhibition Test. It is a serum neutralization (inhibition) test, which means it measures the ability of rabies

specific antibodies to neutralize rabies virus and prevent the virus from infecting cells. These antibodies are referred to as rabies virus neutralizing antibodies (RVNA).

3.2 Bait depletion study

Field trials were conducted on two separate occasions at Otjikoto Game Reserve of B2 Gold, where pieces of placebo bait, consisting of apple-flavoured cornmeal containing blisters filled with blue-coloured water, were placed on branches of acacia trees near various waterholes. The sites were selected based on how frequently they were visited by kudu. These were monitored by means of camera traps. The aim was to determine the bait uptake by kudu under natural "field" conditions, and to determine whether other animal species that were found in the vicinity of the sites would take up any of the bait. The first period: 24. – 26.08. 2021 while the second period was from 25. – 29.10.2021.

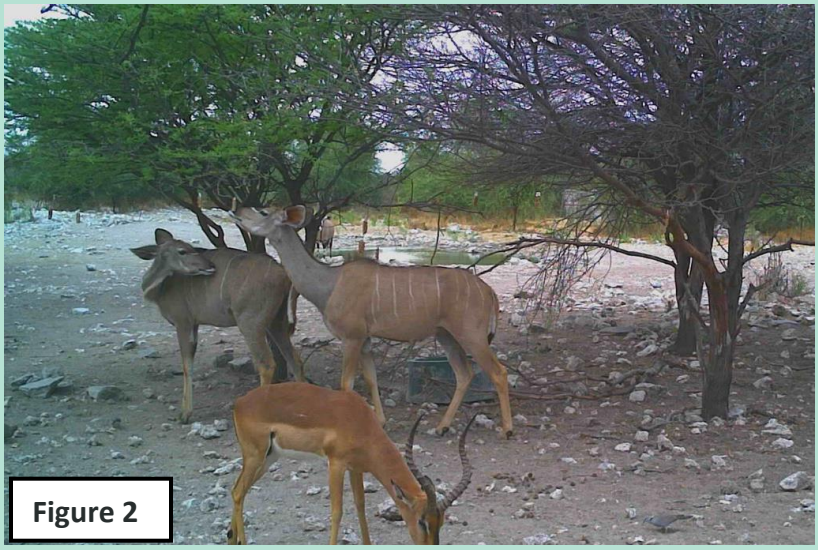


Figure 2 and figure 3 show a kudu observed while taking up a piece of bait at a waterhole

4. Results

4.1 Vaccine Study

Of the animals which took up varying numbers of bait pieces containing the vaccine, 45% tested positive for ELISA and 19% for RFFIT, (total 64%) while 36% tested negative.

Of the animals which received 2 different doses of the vaccine directly into the mouth, 33% tested positive for ELISA only, while 42% tested positive for both ELISA and RFFIT, (total 75%) while 25% were negative.

In both cases it was also noted, that an increase in the dose of the vaccine resulted in higher percentage of positive animals.

Although results of serological assays which have not been validated for specific species of animals are difficult to interpret, the results show that oral vaccination of kudu, using a third-generation oral vaccine like SPBN GASGAS, can lead to the development of measurable titres of antibodies. **In other words, the immune system of kudu can be stimulated by an oral rabies vaccine to produce antibodies.**

This is the first time this has been achieved in wild herbivores.

4.2 Bait Depletion Studies

During the first period 47 pieces of bait were distributed. Of these 24 were consumed completely, 7 were taken up partially and 16 were not taken.

During the second period also 47 pieces were distributed, but only 11 were consumed completely, 2 partially and 34 were not taken. This second period during October was characterized by high winds and rain, which negatively impacted on the number of animals visiting the sites. Only kudu and eland were observed taking the bait. No other animal species showed any interest.

5. Conclusion

This study confirmed findings from previous studies, namely that kudu can be vaccinated by the oral route using the 3rd generation oral rabies virus vaccine SPBN GASGAS. However, larger volumes are required than for meso-carnivores, for example. This has a direct bearing on the practicality of this method. Further studies are therefore required to determine if the delivery per bait can be improved so that acceptable seroconversion levels can be achieved.

As far as the bait is concerned, altogether, the described baits and distribution system seems to be able to attract kudu under natural field conditions. However, more targeted studies are needed to determine if an acceptable vaccination coverage can be reached.

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Report on AMR Workshop

By Dr Anselm Voigts

ONE HEALTH: NATIONAL ANTIMICROBIAL RESISTANCE (AMR) STAKEHOLDER MEETING AND WORKSHOP
-WINDHOEK 12. – 14. APRIL 2022

This meeting was a follow up on the meeting held on 20. March 2020 on AMR. Although this is an important subject for all veterinarians, it was unfortunately not attended or supported by any private practitioners.

Antimicrobials are essential medicines to control and treat infections in humans and animals, however they are losing efficacy at an increasing rate due to overuse and misuse. Human, animal and plant sectors have a shared responsibility to prevent or minimise antimicrobial resistance. The risk of AMR increases whenever these medicines are used inappropriately. Namibia developed an Antimicrobial Resistance (AMR) national action plan (NAAP) in May 2017.
The overall goal of this NAAP is in line with the goal of the Global Action Plan which is to *"ensure continuity of successful treatment and prevention of infectious diseases with effective and safe medicines that are quality-assured, used in a responsible way, and accessible to all who need them".*

The **One Health approach** includes human, animal and environment health.

In animal health in Namibia there is lack of comprehensive data on antibiotic use and microbial testing- most of the data available on pathogens is generated from routine samples obtained from export abattoirs for food safety testing at CVL. The only Antibiogram surveillance currently done is for animal specimens which are referred to the Central Veterinary Laboratory (CVL) to assist in diagnosis.

Some strategic objectives:

- **Surveillance** - to implement an integrated and coordinated national surveillance program for human and animal health with improved laboratory capacity to ensure quality AMR data, improve water quality testing and testing of food products of animal origin
- **Prevention** - coordinating and strengthening Infection, Prevention and Control (IPC) initiatives at all levels of healthcare to prevent the spread of disease and

strengthen biosecurity measures on farms and point of entries

- **Awareness, Collaboration, and Communication** - on AMR in both human and animal health and public awareness on prevention measures, such as hygiene, sanitation, vaccination, biosecurity
- **Education and Training** - Incorporate AMR modules in the curricula for both human and animal health and educate farmers and the public on the use and application of antimicrobials.
- **Antimicrobial Use** – promote responsible, controlled use of antimicrobial medicines in human and animal health
- **Research and Development** – collaborate with institutions of higher learning, other partners, public and private sector.

The incorrect and inappropriate use of antibiotics by farmers, mostly with over-the-counter drugs is the biggest challenge for Namibia in its fight against AMR. The up-scheduling of these over-the-counter antibiotics will have far reaching implications for the end user, the farmer. When amending the regulations to up-schedule antibiotics it is important that the responsible authorities are aware of the practical challenges for the end user – practical solutions must be found. Meetings between DVS and the Agricultural Unions are essential; DVS was nominated in 2019 as the responsible department. From this collaboration with Agricultural Unions, properly structured training programs for farmers as end users can follow on the responsible use and application of antibiotics.

This is also a great concern to the OIE and FAO and may seriously affect our meat export status.

The responsible and prudent use of antimicrobials should be assisted and guided by all veterinarians to ensure that they are only used when it is clinically indicated and necessary, at the correct dosage, frequency and duration of treatment. The drug expiry date, withdrawal period and storage instructions must be strictly adhered to and the livestock owners must keep adequate records as prescribed in the FAN Meat regulations. The Friedrich-Loeffler-Institute (Germany), in collaboration with CVL and the School of Veterinary Medicine at UNAM, has started a pilot project to determine the prevalence of antimicrobial resistance in certain populations of bacteria in the veterinary field. This project will give us a partial view into the true situation regarding AMR in Namibia.

A Case of Mastitis

By Gobabis Veterinary Practice

Day 1: Cow presented with an enormous, rock-hard udder. Owners had been struggling with her for a week and had injected her with 15ml of Terramycin LA.

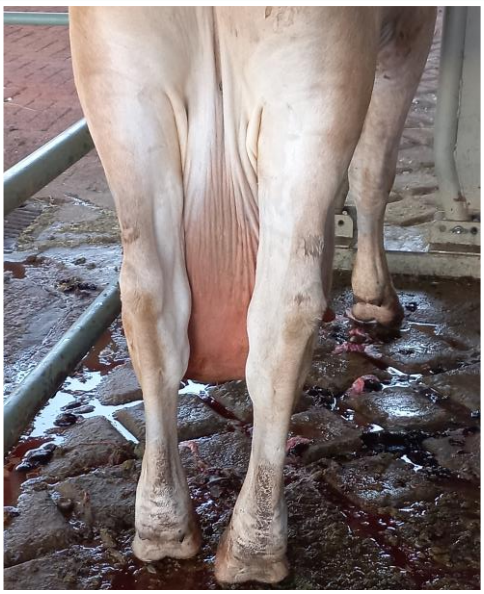
Treatment was initiated with:
- Rilexene LC 200 mastitis ointment, twice a day for 3 days
-Depomycin daily for 5 days
-Corticosteroids daily for 5 days
- Warm compresses with towels and frequent milking
-Daily flushing of the teat canal with saline and an antibiotic infusion

Day 2: Udder still very inflamed but slightly smaller in size and also slightly softer on palpation. Milk bloody and clotted in appearance.

Day 5: Drastically reduced in size and softer in most areas**.**

Day 6: A soft swelling starting to form cranially to the udder. Milk now clear and of normal consistency. Daily milking was continued over the next few days.

Day 9: The cranial swelling became softer and fluctuant. It was aspirated and found to be a haeomatoma/ seroma. It was lanced and drained. Approximately 15 litres of serosanguinous fluid with blood clots was drained.



The udder after drainage

The **seroma** is speculated to have formed as a result of the massive weight of the udder compromising lymphatic drainage away from the udder as well as trauma from the cow lying on the udder during the day. The cow made a full recovery.

Figure 1 Day 5

Contact Us

We would love to hear from you!

Have an interesting case, story or pictures to share with us?

Please send them secretary@van.org.na

The Veterinary Association of Namibia is a *member-led organization* for all types of veterinarians in the country. If you have any suggestions regarding activities, or would like to become a member of the Executive Committee, let us know! 😊

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