

NEWSLETTER JULY

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Dear clients,

We hope you are all well and able to keep warm during these cold spells! In this newsletter edition you can read about the Animal Crime Scene and Evidence Handling Course we did. Continuing on last months topic of pica behaviour, we now dive into the topic of minerals and the importance of licks. Lastly, we give info on our WhatsApp groups, and highlight a website with free veterinary books.

Stay healthy, warm regards, Ulf and Mariska

ANIMAL CRIME SCENE AND EVIDENCE HANDLING COURSE

On 17-19 July we held our very first Animal Crime Scene and Evidence Handling Course. The entire course was sponsored by ISAP (Intelligence Support Against Poaching) and held at their facility at farm Ovita. The course is designed to improve and augment the multi-disciplinary cooperation between first responders (e.g. farmers, APU, vets etc.) and the police and MEFT staff, to serve our common purpose of bringing perpetrators to book. Despite the cold it was a great weekend!



A selected group of people, consisting of reservists, K9 APU team, farm owners/managers and vets joined the course with the aim of perfecting it and to exchange experiences. We were assisted in the lectures by an experienced reservist in investigating crime scenes, the K9 anti-poaching team of Rickus Spangenberg and professional photographer Dirk Heinrich.

We started Friday morning with an introduction to crime scenes and poaching, and a lecture on what DNA is, and why it is so important. The next lectures were about crime scene photography, an essential part of the crime scene investigation. In the afternoon we went out and practised several aspects of photography under supervision of Dirk Heinrich, and had a demonstration of Brendan Butcher from Bushwackers Namibia, who showed us several metal detectors and how to use them.



The course was held at the ISAP facility, but due to heavy wind and cold the lectures were moved to the Ovita lodge. A big thanks to Ovita for making this possible! Dirk Heinrich taught the participants on how to set their cameras, and how to take proper photographs of the poaching scene and evidence. Brendan Butcher gave an interesting demonstration about the use of a metal detector in crime scenes. All photos © M. Bijsterbosch

ISAP's drone showed how useful a drone is for making overview photos. These overview photos can easily be used to create crime sketches and to show outsiders (e.g. the judge) where what happened.



On Saturday we started off with lectures again; about how to approach a crime scene, how to collect evidence and document it, and how to behave in court. The entire afternoon we practised photographing and collecting evidence, and we make a casting and imprint of a tyre track. With a drone demonstration the participants could see how proper overview photos could be taken. A K9 APU team demonstrated how dogs are used to follow a trail of a poacher. Sunday was the final day where everything came together; an impala was 'poached', and the participants had to investigate the poaching scene from A to Z.



The participants got hands-on experience in photographing tracks and evidence. They also made a cast of a tyre track, and imprints from the 'poacher's' car tyre tracks. Veruska, the blood hound from Rickus Spangenberg, showed an excellent demonstration of how she picks up and follows the trail of a poacher, and she quickly got him 😊

We would like to thank all participants for joining the course and their valuable input, which we will use to further improve the course. A special thanks goes out to ISAP, without their generous sponsorship we would not have been able to hold this course. For more information about ISAP, have a look at their [website](#) and [Facebook page](#).

We hope to offer more courses in the future. Below you find more information, but please note that this course is not meant to make you a detective. It is meant to teach you how to preserve a crime scene and assist the police and/or MEFT. When you encounter a poaching scene, it is important to notify the police/MEFT accordingly. If you are interested in the course, sent an email to mariska@wildlifelivestock.com, and we will inform you once we do another course.

Why join this course?

In this 3-day course we teach you about the proper handling of a crime scene and evidence in case of poaching, stock theft or another wildlife or livestock-related crime.

For who?

This course is meant for farmers, managers, anti-poaching units, game rangers, police officers, and all others that might encounter animal crime/poaching situations.



What will you learn?

- 🐾 The importance of DNA and proper evidence collection
- 🐾 How to carefully approach and handle a crime scene
- 🐾 What types of evidence can be collected, and how to handle, collect and store it
- 🐾 How to take crime scene photos that can be used in court
- 🐾 How to properly document your findings
- 🐾 Maintaining the chain of evidence
- 🐾 How to examine body language and see if a possible suspect is lying
- 🐾 The different roles in a court case and how to behave in court
- 🐾 Practical: Crime scene photography, Shoe & tyre print collection, Crime scene investigation



MINERALS AND THE IMPORTANCE OF LICKS

In [last month's newsletter](#) we spoke about pica behaviour – the consumption of substances that are not considered to be food.

Wild herbivores usually obtain all the necessary minerals from their food and water. If this is not possible, they usually supplement their diet by for example licking brackish soil (geophagy) or chewing bones (osteophagy). Natural mineral licks often provide the animal with extra sodium, calcium, iron, phosphorus and zinc. The ability of animals to select certain macro- and micronutrients is a complex and interesting topic, and still not fully understood. In this article we dive deeper into the topic of minerals; why are they important, and what can you do to overcome deficiencies in your animals?

Why are minerals important?

Minerals are important to help the body to grow, develop and stay healthy. They play many different important roles in the body; from building strong bones, transmitting nerve impulses, maintaining a normal heartbeat, fertility and reproduction to making hormones.

Minerals are divided in two main groups; macro elements and trace elements. Macro elements are required by the body in larger amounts (>100mg/day). They are for example sodium, potassium, magnesium, calcium and phosphorus. Trace elements (or micro-elements) are required in smaller amounts (<100mg/day), for example selenium, zinc, iron, copper and manganese.

Macro elements			Trace or microelements					
English	Scientific abbreviation	Afrikaans	English	Scientific abbreviation	Afrikaans	English	Scientific abbreviation	Afrikaans
Calcium	Ca	Kalsium	Iron	Fe	Yster	Fluorine	F	Fluoor
Phosphorus	P	Fosfor	Zinc	Zn	Sink	Vanadium	V	Vanadium
Sodium	Na	Natrium	Manganese	Mn	Mangaan	Chromium	Cr	Chroom
Potassium	K	Kalium	Copper	Cu	Koper	Molybdenum	Mo	Molibdeen
Magnesium	Mg	Magnesium	Iodine	I	Jodium	Selenium	Se	Seleen
Chlorine	Cl	Chloor	Cobalt	Co	Kobalt	Tin	Sn	Tin
Sulphur	S	Swawel/ Swael	Nickel	Ni	Nikkel	Silicon	Si	Silikon

On the next pages you can find an overview of the most important minerals, what they do and signs of a deficiency. Please be aware that over supplementation can do more harm than good – ALWAYS seek advice from an animal nutritionist first.

Mineral	Function	Deficiency occurrence	Deficiency signs	Other info
Calcium (Ca)	<ul style="list-style-type: none"> - Healthy bones, teeth and horns - Helps muscles relax and contract - Nerve functioning - Blood clotting - Blood pressure regulation - Immune system health 		Weak, unthrifty animals with swollen joints, lameness, weak bones	For proper absorption, Ca & P have to come in a ratio of 1.2 – 2.0 parts of calcium to 1.0 part of phosphorus.
Phosphorus (P)	<ul style="list-style-type: none"> - Healthy bones, teeth and horns - Found in every cell - Part of the system that maintains acid-base balance 	<ul style="list-style-type: none"> - Phosphorus content of grazing drops during the winter. - During summer animals need more phosphorus for growth. - In high rainfall areas, phosphorus gets more soluble, leading to more leeching and thus higher chance of deficiencies. 	Osteopaghy (bone eating), stiffness, poor milk production, poor growth, bone abnormalities and low fertility.	Too much phosphorus can lead to bladder stones and softening of the skeleton.
Sodium – salt (Na)	<ul style="list-style-type: none"> - Proper fluid and acid-base balance - Nerve transmission - Muscle contraction 	Unlikely	Animals are found licking objects, drinking their own urine or chewing on bones. A deficiency leads to poor hair pigmentation, poor milk production, poor growth and low fertility.	Too much salt leads to diarrhoea, nervous symptoms and dehydration.
Potassium (K)	<ul style="list-style-type: none"> - Proper fluid and acid-base balance - Nerve transmission - Muscle contraction - Glycogen and protein synthesis¹ - Breakdown of glucose 	Unlikely	Poor nerve development and low fertility.	
Magnesium (Mg)	<ul style="list-style-type: none"> - Found in bones - Needed for making protein - Muscle contraction - Nerve transmission - Immune system health 	Leeched soils in general have a low level of magnesium.	Hypersensitivity to touch and sounds, depression, muscular tremors and cramps, grass tetanus and poor milk reproduction.	Too much supplementation can cause death.

¹ The execution of chemical reactions to form a more complex molecule

Mineral	Function	Deficiency occurrence	Deficiency signs	Other info
Zinc (Zn)	<ul style="list-style-type: none"> - Part of many enzymes - Needed for making protein and genetic material - Function in taste perception - Wound healing - Normal foetal development - Production of sperm - Normal growth and sexual maturation - Immune system health 	An excess of calcium can prevent proper zinc absorption	Salivation, itching, ruminal parakeratosis (hardening and enlargement of the papillae of the rumen) and loss of hair on the snout, flanks and neck. Deficiencies can become a problem especially in periods of stress during a cold winter.	
Iron (Fe)	<ul style="list-style-type: none"> - Part of haemoglobin found in red blood cells that carries oxygen in the body - Needed for energy metabolism 	Sandy soils might have a deficiency	Anaemia (low number of healthy red blood cells – sign: white/pale mucous membranes), animal is weak, breathes rapidly and shallow, highly susceptible to bacterial infections.	
Iodine (I)	<ul style="list-style-type: none"> - Found in thyroid hormone, which helps regulate growth, development, and metabolism 		Deficiency may lead to weak or stillborn young and goitre enlargement (swelling in the neck resulting from an enlarged thyroid gland).	Too much iodine makes animals hyperactive and emaciated. The northern parts of Namibia contain goitrogenic plants, leading to goitre enlargement.
Copper (Cu)	<ul style="list-style-type: none"> - Part of many enzymes; needed for iron metabolism - Stimulates formation of healthy connective tissue, hair and hooves - Needed for proper bone growth 	Pellets with a too high iron content can lead to a copper deficiency.	Poor appetite, poor hair pigmentation, poor growth, bone abnormalities, low fertility, anaemia, diarrhoea, general emaciation, lameness, sometimes acute heart failure. Deficiency can be recognized by a discolouration of the hair around esp. the eyes (looks like animal has glasses on). Sable bulls get a reddish colour.	An excess of copper causes haemolysis (breakdown or destruction of red blood cells), liver damage and jaundice

Mineral	Function	Deficiency occurrence	Deficiency signs	Other info
Sulphur (S)	- Found in protein molecules		Prussic acid poisoning	
Cobalt (Co)	- Formation of B12 in the rumen		Lachrymation (excessive tearing), dune phthisis, poor appetite, anaemia, emaciation and eventually death from apparent starvation.	
Manganese (Mn)	- Part of many enzymes	Limy coastal sandy soils.	Weak or stillborn calves, abortion, poor hair pigmentation, bone abnormalities and low fertility.	
Selenium (Se)	- Antioxidant		Poor growth, low fertility, white muscle disease (same symptoms as capture myopathy).	The most commonly diagnosed nutritional deficiency in wild animals. Excessive selenium causes hair loss on the end of the tail, ataxia, hooves dropping off and malformed young.
Molybdenum (Mo)	- Part of some enzymes	Unlikely	Poor digestion of cellulose and poor growth	
Fluorine (F)	- Involved in formation of bones and teeth - Helps prevent tooth decay		Brittle teeth	



Mineral deficiencies in Namibia

Phosphate deficiencies are common in Namibian rangelands. High permeability of soils leads to the leeching of phosphorus, and higher rainfall areas are more prone to phosphorus deficiencies. The following are known broad regional mineral deficiencies, but remember this is a generalisation.

- 🐾 Northern third Magnesium, zinc and iodine
- 🐾 Central third Magnesium, copper and zinc
- 🐾 Southern third Magnesium, zinc and manganese

From [studies done in Namibia on cattle livers in abattoirs](#), researchers found the following:

- 🐾 Kalahari-sand areas Low phosphorus levels
- 🐾 Northern Namibia Low iodine levels (based on milk samples)
- 🐾 Arid soils Low copper levels
- 🐾 Northern communal areas Low copper, zinc, manganese and iodine

Mineral intake can be influenced by soil, plant and climatic factors. If you think your animals might have a deficiency, it is always advisable to **contact an animal nutritionist**. They have scientific knowledge based on soil, water and forage analysis, and feed experiments.

There are seasonal differences in the usage of natural and man-made licks. In a research conducted in North America for example, scientists found that animals particularly used the licks in spring and early summer. As the young green forage contained a higher amount of potassium in this period, they needed a higher sodium intake, and thus visited the licks more often. Seasonal use of licks also can be due to pregnancy and lactation, adjustment to warmer weather, and a lack of minerals following a drought.

Lick placement

Licks are best placed near water points, as animals come together here on a regular basis. Try to place it in an open area (easy to find), bordering dense bush, so game can seek refuge when predators are around. It can also be placed in strategic viewing points for monitoring, touristic- or hunting purposes.

Licks can be in different forms; as powder, granules or blocks. Blocks are usually placed on the ground, whereas the powder form should be placed in a feeding container. In high rainfall areas it is wise to protect the lick against the rain, by for example creating a roof over it. In areas with a high incidence of ticks, you can combine the lick with a system of rollers (e.g. Oom Gielie se bak), or ropes. Animals that eat from the lick, are automatically dipped with an anti-parasitic.



During immobilization

When we immobilize an animal, you probably have seen that we give them a yellow and a pink injection. In these injections are several minerals, which will give the animals 'a boost'. The yellow one is Kyroligo; a mineral and multivitamin, the pink one is B-Co Bolic; what we call the 'Red Bull shot'. Generally, we always give these injections when we have our hands on the animal. It can't do any harm and it is cheap.

<< Kyroligo

This injection contains several vitamins (e.g. A, D, B, E), amino acids and minerals (manganese, zinc, copper, cobalt and magnesium). It ensures a proper development, and can be used as supplementation for animals with nutritional needs or for animals that are weak and/or ill.

B-Co Bolic >>

This injection contains e.g. phosphorus, selenium and vitamins (B). It gives the animals an energy boost, and helps in the recovery after disease. When animals have been running, the selenium in B-Co Bolic also helps to reduce acids that build up in the muscles.



REGIONAL WHATSAPP GROUPS

Join our regional
WhatsApp groups!

Save km costs –
save \$\$!



How does it work?

- 🐾 When we work in a certain area, we notify the group
- 🐾 If you have work that needs to be done, contact us personally – these are NOT chat groups
- 🐾 We check if we can fit it in
- 🐾 Share km costs – save \$\$
- 🐾 Our groups:
 - North of Windhoek (e.g. Okahandja/Otjiwarongo/Outjo/Tsumeb etc. area)
 - East of Windhoek (e.g. Omitara/Witvlei/ Gobabis etc. area)
 - South-east of Windhoek (Dordabis/Nina etc. area)
 - South of Windhoek (Rehoboth and south)

Contact us for more info and to be added:

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Me reading, pretending I'm going to retain anything I've read



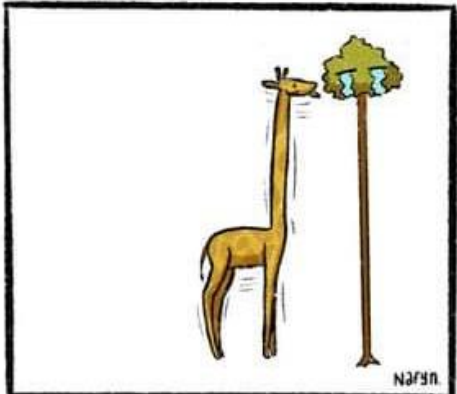
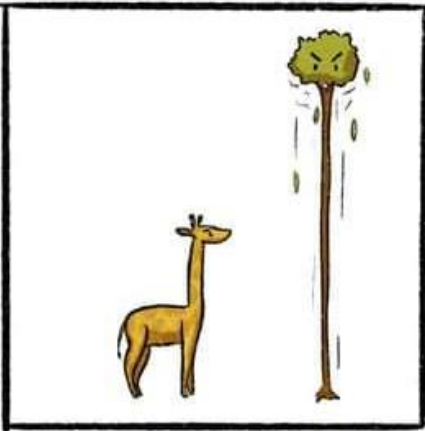
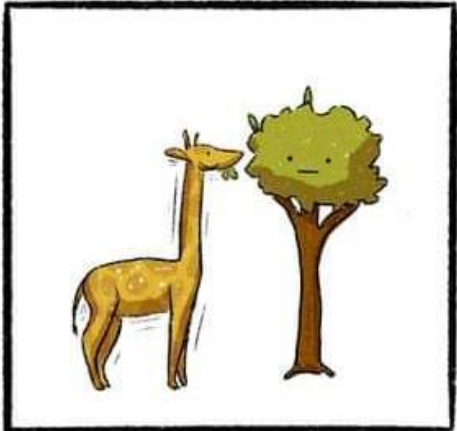
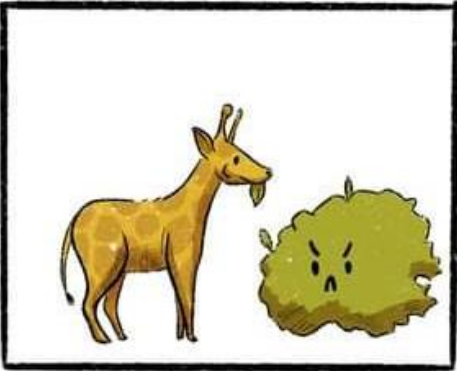
WEBSITE WITH FREE VET BOOKS

We came across an interesting website, Vet-ebooks.com, which has a list of free veterinary books. Most of the books are for veterinarians and/or vet assistants, but we think there are quite a lot of books interesting for farmers/managers etc. as well. You can become a member (paid), but there is a list of more than 100 free books available.

There are books on dogs and cats, but also on horses, cattle, poultry, pigs and sheep, in a wide variety of topics: e.g. anatomy, medicine, surgery, diseases but also nutrition, parasitology and reproduction.

Click [here](#) to go to the website, and have a look and download the books that are interesting for you. To see the complete list, click the button 'Load more' at the bottom of the page. Enjoy reading 😊

GIRAFFE: THE GENESIS



CONCLUSION
GIRAFFES ARE
VERY STUBBORN
HORSES.

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