

Practical management aspects of wildlife ranching

In this series Dr Johan Kriek shares some of the elementary principles of wildlife ranching, including practical examples of why losses occurred, in an attempt to prevent newcomers from making the same mistakes.

After 24 years of wildlife ranching, I have realised that we still have a lot to learn. We must, however, learn from our mistakes and warn newcomers to this wonderful industry of the pitfalls and unnecessary mistakes we have made. From mistakes and wrong decisions you will get clever, but never rich.

Introduction

Today there are basically three types of game ranching: extensive, semi-intensive and intensive. Your choice of ranching system will greatly influence your management decisions.

Extensive game ranching

With this system there is no human interference and the area is large

enough to support the natural migration of species (for those that do migrate), creating a habitat in which they can survive naturally. This is normally a multi-species system and probably the ideal system for those of us that can afford a vast area of land. Predators help to control the populations and there is little or no human interference.

Semi-intensive game ranching

In most cases this is also a multi-species system, but the area ranched is usually smaller and has a proper boundary fence. Camps of 100 ha and bigger where animals are kept as naturally as possible and where certain species are only supplemented during periods of nutritional stress, fall in this category.

Be careful of areas smaller than 100 ha, as this is when the number of animals per species and the number of species kept become important. I believe in a multi-species approach if possible in order to create a natural "mix" and contact between different species. It is important for animals to come into contact with various pathogens at an early age so as to build up immunity to those pathogens. Malignant catarrh or *snotsiekte* is a good example of this. I have seen that most of the buffalo that contracted the disease were alone in a camp and not

exposed to wildebeest as is often the case in a multi-species set-up. Competition at the feeding area can be a problem in camps of any size, but especially in small camps where animals are fed daily throughout the year. Here are a few examples:

- One farmer lost four sable cows over a period of a few weeks. The farmer was convinced that the alpha / leader cow was responsible for the deaths. I eventually convinced him to have somebody watch his sable herd carefully during feeding. The culprit turned out to be a gemsbok bull, which killed the cows at the feeding site.
- Another client's roan bull was killed by a sable bull because he kept both his sable and roan breeding groups in a 50 ha paddock.
- A third farmer lost a sable bull that had been killed by a roan bull, as the 50 ha paddock was too small to accommodate a group of sable and a group of roan.
- Another farmer had a small group of buffalo in a 100 ha paddock together with some gemsbok. Competition at the feeding trough resulted in the buffalo fracturing the front limb of the golden gemsbok bull. (See photo 1)

Intensive game ranching

Animals are kept in areas smaller than



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1: This golden gemsbok's leg was broken by a buffalo as a result of competition at the feeding trough.

2: Feeding troughs should be at least 10 m apart and there should be enough for all animals.

100 ha and continuous supplementation is required for their survival:

Always have more feeding troughs than the number of animals in the herd.

Place feeding troughs at least 10 m apart to ensure that all the animals get their feed supplement. A client lost three sable through starvation because he only had three feeding troughs to feed 15-odd sable, and only the bull and two dominant cows were getting all the food. The rest of the herd was thin and starved. These are basic principles that I witness every day and it could cost you dearly. (See picture 2).

When any ration is fed to wildlife, always start with small amounts (half a kilogram) for a week and gradually increase to one and a half kilograms. This is important as the animal's ruminal flora takes time to adapt to the new ration, especially so with concentrates such as game cubes or pellets and maize products. Acidosis is a real danger if too much high energy is fed too quickly.

A healthy rumen is the secret to success in wildlife nutrition. Good-quality roughage is more important than concentrates. Prime-quality lucerne is still the best roughage; be careful though as lucerne produced in certain areas can be deficient in selenium (this is why mineral licks throughout the year is so important). One client lost nearly 20 sable cows to what appeared to be a selenium deficiency. Do not feed more than one and a half kilograms of game cubes or concentrates per day, because then you are changing a ruminant into an omnivore.

We see this in feedlot cattle where animals are put on a high-energy ration to quickly get them in peak condition for slaughter. If there is insufficient roughage in their diet it results in atrophy of the rumen and rumen papillae. Certain vitamins (B1 and B12) are

synthesised in the healthy rumen. Deficiencies in these could lead to syndromes like CCN (cerebral cortical necrosis) and what I call "shipping fever syndrome", especially in roan.

Nutritional deficiencies can lead to certain syndromes (conditions)

Shipping fever syndrome in roan antelope:

This is a serious problem on many farms and as far as I am concerned, it is mostly caused by some form of mismanagement.

- (a) It is more common on farms where certain trace element deficiencies occur (copper and cobalt are important).
- (b) It is more prevalent where animals are fed too much high-energy rations (game cubes / pellets or more than 2 kg maize).
- (c) Animals are also at risk where too little quality grazing or roughage is available.

I believe that the rumen (stomach) of antelope is the most important organ and any alteration to the rumen's function will impact negatively on the health of that animal. Pneumonia, with its various viruses and bacteria, is just the alarm bells going off to tell you something is wrong. It is a sign of physiological mismanagement leading to disease. See photos 3 and 4 below)

When too little good-quality roughage is fed, atrophy of the rumen occurs. With atrophy of the rumen papillae, you are changing a herbivorous animal into an omnivore, with the digestion being done mainly by the abomasum. Vitamins B12 and B1 are important vitamins synthesised in the rumen, and with cobalt (Co) and copper (Cu) deficiency in the diet and too little roughage, the factory does not function as it should.

Choose the best grazing for your

sable and roan – they are highly selective grazers.

CCN (cerebral cortical necrosis):

Most of our commercially available game pellets have "energy" values that are too high. This, amongst other things, can lead to CCN where animals can lose their balance and display nervous symptoms, such as drooping ears, circling, being off-balance, lying down on the side, and eventually death (within 2 to 10 days).

The underlying cause is a thiamine (or vitamin B1) deficiency. If treated early (with B complex), one might pull the animals through.

Traumatic pericarditis: In layman's terms, this is caused by a piece of wire pushing through from the rumen into the heart or heart sac, causing an abscess in the heart sac. Wire-baled lucerne is often the main cause of wire ending up inside an animal. (See pictures 5, 6 & 7 on page 70)

Clostridial infections, such as black quarter tetanus, enterotoxaemia (various forms) and malignant oedema, occur more and more in sable these days. Vaccinate with Covexin 10 and Supavax when handling any of your sable.

Anthrax: When any roan or sable (or other animal) have to be immobilised, vaccinate against anthrax, especially in the Northern Cape. Supavax contains anthrax, black quarter and botulism antibodies.

Botulism: This is especially a problem in giraffe. They have a habit of chewing bones (pica). Pica is due to a phosphate deficiency. Botulism is caused by a toxin produced by the bacterium *Clostridium botulinum* in

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3 & 4: A young roan with shipping fever. His lungs are full of phlegm because of too little cobalt and copper as a result of shipping fever.

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organic material, e.g. dead tortoises, bones, rats, etc. The toxin is taken in when the animal chews an infected object. It can be a deadly disease. It is important to provide a phosphate / calcium mineral lick with trace elements throughout the year, e.g. Kimtraphos Grande P6 with a trace element block.

Pasteurella: This disease is occurring more and more in buffalo these days. Vaccinate against *Pasteurella multocida* and *Mannheimia haemolytica*.

PARASITES

(a) External parasites (ticks, lice, mange): With the intensification of wildlife farming, there is a bigger occurrence of parasites in camps, resulting in conditions not previously found in game.

The average egg production of ticks such as *Rhipicephalus evertsi evertsi* (red-legged tick) is about 2 000 eggs. If these hatch out in small (25 ha) paddocks, high tick loads can build up very quickly. High tick loads can cause tick toxicosis, making animals more susceptible to diseases like theileriosis and other tick-borne diseases. (See photo 9 and 10)

The same number of ticks hatched out in a bigger area (e.g. 2 000 ha) will take much longer to become a threat.

There are various applications that can help control ticks. Another practical way is to run some oxen through the camp for a day or two to pick up the

8: Botulism is prevalent in giraffe. This duiker head got stuck in the giraffe's mouth and the giraffe died.



ticks and then dip the cattle. This will help to decrease the tick population in an area.

Lice can be a problem at the end of winter, so be on the lookout for that. Ivomec in feed should clear up lice and mite problems.

(b) Internal parasites: There are many species of worms that can cause a problem in wildlife, but there are two types I wish to mention:

(i) Wire worm *Haemonchus contortus*. A client brought in a carcass of a sable heifer calf for a post-mortem. The calf died of starvation; there was no milk in the abomasum. Two days later the carcass of the calf's mother was brought in. She died of a massive wireworm infestation (the mucous membranes were white). An egg count revealed 38 000 per gram of faeces.

Ivomec in feed to treat the problem is not very effective as there already is a parasite resistance. Prodose Orange and Panacur seem to work well. Apply the anthelmintics to all the feeding troughs and put a bit of molasses powder on top to camouflage the medicine. Then put out the feeding troughs as quickly as possible and leave immediately so that all the animals can get to

the medicated feed at the same time. This will prevent certain animals getting an overdose.

(ii) Tapeworms: We are seeing more and more problems with tapeworm hydatid cysts these days, especially with smaller camps near home-steads. Humans have tapeworms that can affect animals, with animals getting the intermediate stage or measles form of the parasite. Certain tapeworms have carnivores as their final hosts, and antelope tend to be the intermediate host (measles form).

An interesting case I encountered was when six of a group of eight animals displayed nervous symptoms and eventually died. These deaths were caused by hydatid cysts of the brain.

Control measures include proper toilet facilities for labourers, deworming of dogs at least twice a year, and the control of predators like jackal with proper fencing. (Photos 11 – 14)

(c) Coccidiosis: This is a protozoal parasite causing serious diarrhoea and death in animals. Buffalo are especially prone to it. It is advisable to give coccidiostats such as Baycox and Amprol to boma-kept animals every two to three weeks (treatment is given for three days at a time). (See photo 15)



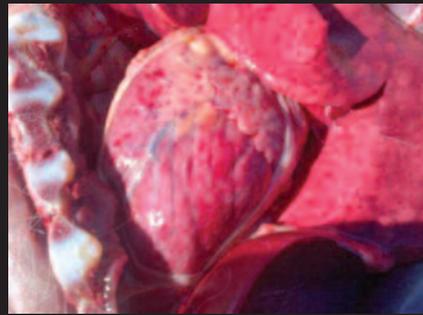
5, 6 & 7: A buffalo with traumatic pericarditis. The wire through the heart can be seen clearly.



9 & 10:
A roan calf
with tic
infestation
and
bleeding
heart



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10

11 & 12: Tape worm (right) and Wire worm (below) (Photos: Dr McFarlane)

13: Wire worm (Photo: Dr R Bengis)

14: Tape worm (Photo: Dr HO Reuter)



12



11



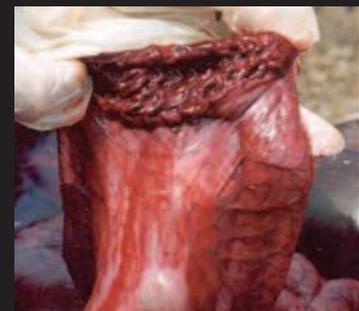
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15: The result of
coccidiosis

In the next issue
we will look at



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