

NEWSLETTER SEPTEMBER

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Dear clients,

We hope all is good on your side! In this newsletter we explain to you what darts we use, and how these darts work. Secondly, the Namibian Chamber of Environment wrote a nice blog about Snotsiekte, follow the link in the article to read it. Lastly, we give more information on food supplementation. Just feeding lucerne/grass is not always enough, and animals still can lose body condition. We give some additional feeds that are high in energy, which you can try. Kind regards, the Wildlife Vets Namibia team.

THE DART EXPLAINED

To immobilize animals, we make use of a dart projector (dart gun), and a dart loaded with immobilizing drugs. There are many different types of darts, but for now we just stick to those we use; darts made by Pneu-Dart and Motsumi.

One gets different sizes for different animals. A 0.5 cc dart we would use for calves/lambs and dik-diks for example. We mostly use the 1 cc dart; we mix our drugs in such a concentration that we could immobilize a wide variety of species and sizes; from a springbuck to a sable bull to a lion male. For the bigger species, such as rhinos, elephants and giraffes, we use 2 cc darts. Darts also have different needle lengths, so that is another thing to consider. For small (e.g. dik-dik) or thin-skinned animals (e.g. wild dog) we use short needles, while for a rhino we need a longer needle to penetrate into the muscle.

Besides the size of the dart, we also must choose if we use a wire-barb dart, or a gel-collar dart. Both help in retaining the dart inside the animal long enough for the drugs to be injected. When we immobilize animals, we generally use a wire-barb dart. Once darted, the barb makes sure the dart stays in the animal, and we physically have to remove the dart. This way, we know the drugs are fully injected, and we can see which animal is darted. It does happen sometimes that the dart comes out by itself (it also sometimes happens that the dart does not inject, despite 'sitting' well).

The gel-collar dart we also call drop-out darts. When the gel-collar dart hits the animal, the gel-collar slowly gets dissolved as it gets wet from the animal's tissue. The dart will then fall out by itself. We use these darts when we vaccinate animals. For small animals, and thick-skinned animals such as rhinos, giraffes and elephants, we also prefer to use the gel-collar dart.

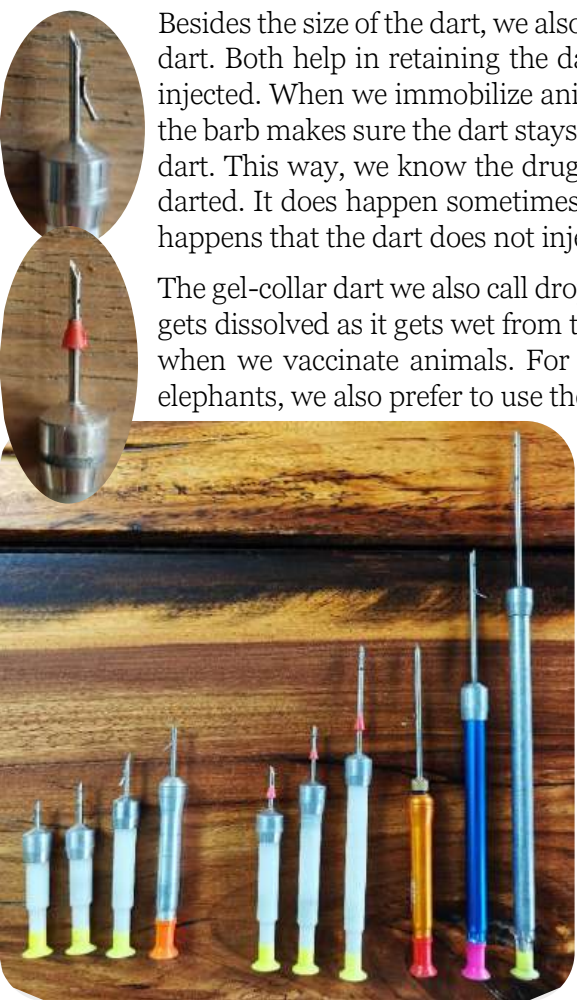
A selection of some of the darts we have. First, two 0.5 cc darts with different needle lengths and a 1 cc wire barb dart (all Pneu-Dart), and a 1.5 cc dart (Motsumi). Then we have a 1, 1.5 and 2 cc gel-collar dart from Pneu-Dart.

The orange dart is a Motsumi dart, and specifically designed for thick-skinned animals. The needles can be screwed onto the dart, and re-used.

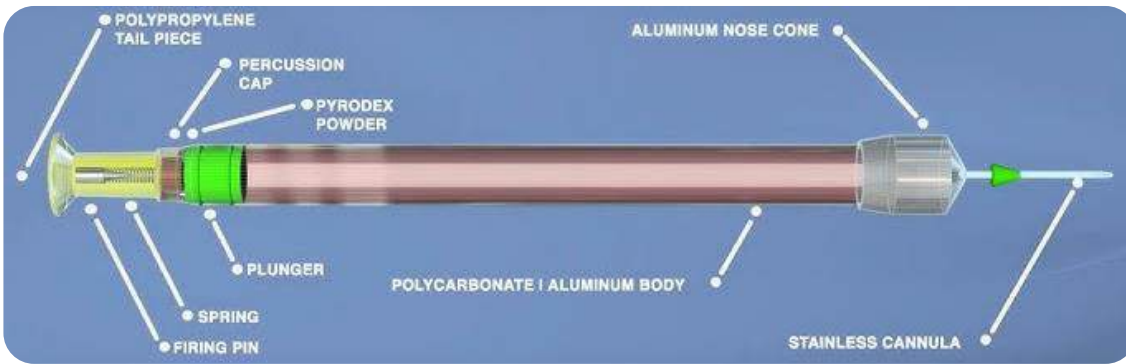
The two big ones are hippo darts with different cc's. For hippos one needs a large volume of drugs to immobilize them (hence the large drug chamber), and long needles, to enable the needle to go past the fat layer, into the muscle (blue dart is from Motsumi, the grey one from Pneu-Dart)
© M. Bijsterbosch



Ulf loading some 1 cc gel-collar darts © M. Bijsterbosch



You now know more about the different darts we use. But how does the dart itself work? The darts we use are single-use darts and they are ready-to-go when we get them. The immobilizing drugs are injected into the drug chamber of the dart via the canula (dart needle). The immobilizing drugs are injected when the dart hits the animal (or a branch 😊). Inside the dart is a small percussion cap (a small metal container with explosive powder), that detonates on impact. This pushes a plunger forward, and the drug is injected. Within a few minutes, the animal should fall asleep! Pneu-Dart made a YouTube video on how the darts work, click [here](#) to view it.



The dart 'anatomy' © [Pneu-Dart](#)

Sometimes people forget that a dart gun is not the same as a rifle, and a dart is certainly not the same as a bullet! The flight of a dart is much slower and not straight like a bullet. Because its slow and relatively big, it is very susceptible for winds.



These are photos extracted from a video which show you the flight of the dart. The sable heifer on the right is the target (yellow circle).

On the first photo you can see the yellow tail piece of the dart just coming out of the dart gun. In the next photos we made it a bit clearer by adding a dot to it. You will see that the trajectory of the dart is like a bow © M.

Bijsterbosch



Another dart we use for vaccinating animals, is a so-called marker dart. Once the dart hits the animal, ink is released from the dart, leaving a visual spot on the animal. That way, we know that that particular animal has been darted. When we dart vaccinate kudu and eland, we use for every 3-4 normal darts a marker dart, which helps us to identify which groups have been darted before. In very dense bush, we like to use more marker darts.

To see how these darts work, have a look at [this YouTube video](#) from Motsumi.



Above; Motsumi marker darts, they leave a pink dye on the animal. Right; an elephant vaccinated with a marker dart from Pseudart, which leaves a green/blue mark. © M. Bijsterbosch



SNOTSIEKTE BLOG BY NCE

The Namibian Chamber of Environment (NCE) made an interesting blog about Malignant Catarrhal Fever, better known as Snotsiekte. The blog, called *'Ineffective and unscientific wildebeest regulations are harming Namibia's economy'* goes deeper into the problems caused by regulations for wildebeest owners as set out by the Directorate of Veterinary Services.

"Namibia's Directorate of Veterinary Services is strictly enforcing regulations that are an unnecessary, expensive, harmful and ultimately vain attempt to stop disease transmission between wildebeest and cattle. The current regulations do little to reduce the spread of disease to cattle, while limiting or even reducing the blue wildebeest population in Namibia.

A proper understanding of this disease will lead to more effective, cheaper and practical solutions to this issue that will benefit both the cattle and wildlife sectors."

Click [here to read](#) the blog, it is worth your time!

ON TODAY'S MENU... ENERGY!

After the first few drops falling in Namibia, we hope the rainy season will be a good one! It is a difficult time now for wildlife, as grass is (very) limited in many areas and many dams are dry. For farmers it is also a difficult time, as grass and lucerne are currently very expensive. On a regular basis we get phone calls from farmers that their animals are losing body condition, have a dull haircoat and are lethargic, even though they get sufficient supplemental food (e.g. teff hay). We believe this is due to an energy deficiency.

If you feel your animals are losing condition (and you might even have animal losses), despite being fed grass hay and lucerne, it will be worth adding high-energy supplemental feeds. Both grass hay and lucerne are relatively poor sources of energy. The energy in food comes from nutrients like carbohydrates, fats, and proteins. Energy in food is what powers the body to do everything. Below we give some examples of good (and relatively inexpensive) supplements.

Maize

Maize is a valuable and inexpensive supplemental feed one could consider. Maize is full of starch, which will provide the animal with extra energy. The advantages of maize, compared to other grains are:

- 🐾 It is high in starch, which is a carbohydrate and as such an important source of energy.
- 🐾 It has a high metabolizable energy value (ME), which is the energy available to the animal for all body functions (growth, reproduction etc.).
- 🐾 Maize fermentation in the rumen happens at a slower rate than other grains.



The introduction of maize to a diet should be done SLOWLY, and in low quantities. If introduced too quickly, animals may develop rumen acidosis. Acidosis occurs when the pH of the rumen falls below 5.5 (normally it should be between 6.5 – 7). The low pH causes irritation of the rumen and disrupts rumen micro-organisms. Acid-producing bacteria take over, producing more acids, and making the condition worse. Signs of rumen acidosis are e.g. depression, reduced feed intake, weight loss, diarrhoea, and eventually death. Maize is thus not used as a primary food, but must be seen as a supplement which can be given in small quantities to give the animals a bit of extra energy.

For an average large antelope (e.g. sable or roan) one can give about 150-200 gram maize sprinkled over the hay. Supplementing animals with maize is practical for small breeding camps, where animals are given food in feeding bowls. In more extensive situations it is more difficult, as often the maize will get eaten by e.g. guinea fowl, or the more dominant animals will probably eat it all.



Camel thorn (Vachellia erioloba) pods

Camel thorn pods are very tasty, well digestible and highly nutritious, making them an ideal source of supplemental food. Since birds will not feed on whole camel thorn pods, they will not compete with antelope when these are fed as supplement (as compared to maize and pelleted food). A hidden benefit from feeding camel thorn pods is that the game will spread the seeds on your farm and in that way assist in the re-seeding of these valuable trees.

Nyalas eating whole camelthorn pods during a translocation from Namibia to the DRC © M. Bijsterbosch

VERY IMPORTANT: Even though palatable and nutritious, do NOT feed Prosopis pods, since these seeds will also be seeded out on your farm and the trees will cause you endless problems in years to come.

In the table below you can see a comparison of the nutritional values between lucerne, teff hay, camel thorn pods and maize. We highlighted the highest values in green.

	Unit	Lucerne	<i>Eragrostis</i> <i>Teff</i> hay	Camelthorn pods	Maize
Organic matter digestibility	%	63.3	61.8	83.6	88.5
Energy digestibility	%	59.8	58.4	81.3	86.1
Digestive energy	MJ/kg DM	10.7	10.8	15.4	16.1
Metabolizable energy	MJ/kg DM	8.5	8.6	12.4	13.6
Dry matter	%	90.6	91.7	91.6	86.3
Crude protein	% DM	18.3	14.6	13.2	9.4
Gross energy	MJ/kg DM	18	18.5	19	18.7
Calcium	g/kg DM	22.1	4.7	6.6	0.5
Phosphorous	g/kg DM	2.7	2.6	1.3	3.0

The values that are important to look at, from an energy point of view, are the following:

- 🐾 **Organic matter digestibility:** the percentage of the organic matter that is digestible.
- 🐾 **Energy digestibility:** how much of the food's energy is absorbed.
- 🐾 **Digestive energy:** the amount of energy in the feed, minus the amount of energy lost in the faeces.
- 🐾 **Metabolizable energy:** amount of energy in the feed minus the energy lost in the faeces, urine and gasses.

As you can see, both maize and camelthorn pods score higher than lucerne and teff hay. Lucerne is a good source of protein.

Game pellets

Game pellets are obviously an excellent and balanced source of supplemental food and are usually reserved for high value species/exotic species in smaller game camps. However, with the current price of lucerne and grass hay, game pellets are excellent value for money (compared on cost per kg food and the percentage of food consumed). Most animals do not eat the stalks of the lucerne and, if not fed from dedicated feeding bowls/strips of conveyor belting etc, a large percentage of lucerne leaves get lost in the soil. In drought situations we then often see animals eating the sand in an effort to eat the lucerne leaves. This excessive sand ingestion can also cause serious digestive complications and sand impaction colic which can be fatal (esp. in rhino).

Browse Plus®

Browse Plus® is a specialised formula designed as an additive to drinking water, feed or lick. It largely counteracts the effects of tannins, and thus enhances the animal's digestive process, resulting in better nutrient utilisation. When browsers eat, they stimulate the bushes and trees to release chemical substances (tannins) which deter browsers and thus prevent over-utilisation. Under drought conditions, even grazers have little choice other than to eat browse, resulting in over-utilisation and possibly tannin toxicity. The ingested tannins can cause a loss of appetite, it lowers the digestibility of the food and can even lead to organ damage and death.

Browse Plus® helps to prevent the absorption of tannins, modifies the structure of terpenes and neutralizes their bad effects. It will increase the intake of less palatable grass and browse and also promote the digestion and absorption of vital nutrients.

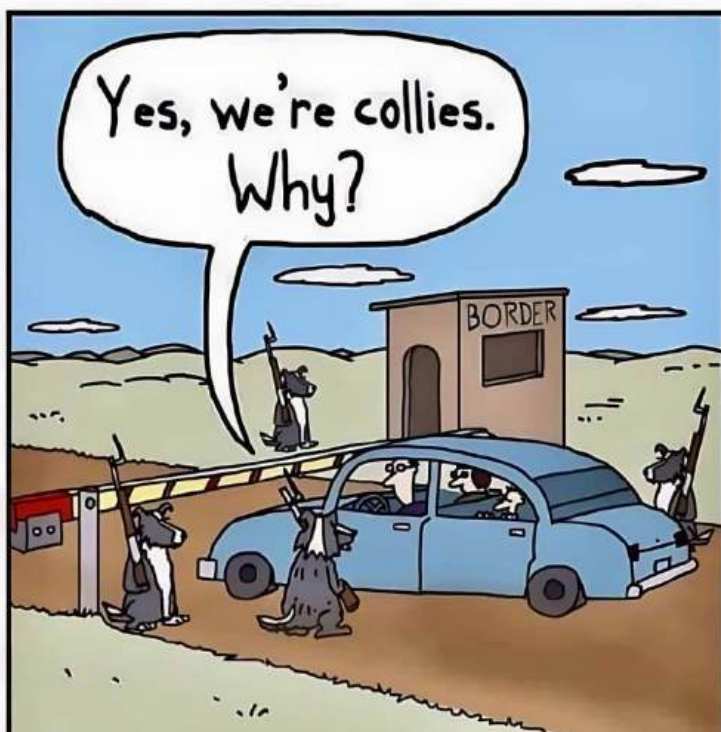


Browse Plus® is designed to enhance the animal's digestive process and results in more nutrient utilization © Virbac SA

Molasses

Molasses can be diluted in water and sprayed over unpalatable grass to increase palatability and get animals to start eating that particular grass. However, the amount that realistically can be applied is unlikely to make a big difference to the energy intake of the animal.

For more information on Nutrition and Body condition, have a look at the [article section on our website](#). Here, you can find articles on feeding behaviour, drought feeding, body condition score (antelope and rhino) and tannin toxicity.



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