### Cattle

<table>
<thead>
<tr>
<th>Picture of a Healthy Animal</th>
<th>A sick animal</th>
<th>Trypanosomes</th>
<th>Tsetse fly</th>
</tr>
</thead>
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<td><img src="#" alt="Healthy Animal" /></td>
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<td><strong>Disease Name</strong></td>
<td><strong>African Animal Trypanosomiasis or Nagana in Cattle, Sheep and Goats; Surra in Camels</strong></td>
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</tbody>
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**Description**

Trypanosomiasis is transmitted to man and animals by a blood sucking insect, the tsetse fly. It is caused by a blood parasite the trypanosome transmitted through the bite of the tsetse fly when it feeds. Trypanosomiasis causes serious losses among domestic animals either through sickness, slow growth, abortion or death. It also affects other species of domestic animals such as sheep, goats, camels, donkeys, horses, pigs and dogs. Wild animals are also affected by the disease and remain carriers and a source of infection for the parasite that causes sleeping sickness in humans.

**Symptoms**

An animal suffering from trypanosomiasis may show all or some of the following signs: fever, swollen glands, loss of appetite, loss of hair, abortion, weakness, pale mucous membranes, weight loss, and infertility in both male and females. In order to confirm that an animal is suffering from the disease, a blood sample from the suspect animal must be examined under a microscope for the presence of trypanosomes.
Control & Prevention

There are a number of different ways of controlling the disease:

- Tsetse flies which transmit the disease, can be controlled by use of traps or simple devices known as targets that contain insecticides, both of which attract the flies and then kill them. The traps and targets are made of blue and black cloth that attracts tsetse flies (visual attraction). Cow urine is placed next to the traps/targets because tsetse flies also respond to specific odours (odour baits). Synthetic odours are also been used.

- Kenya has 8 tsetse fly species that respond differently to different traps and odours. Consult your veterinary / tsetse control office for further guidance

- Tsetse flies can also be killed by spraying their resting sites with insecticides (aerial or ground spraying). Livestock can be treated with appropriate insecticides by dipping, spraying or using “pour-ons” (such as Spot-on®). These work by killing tsetse flies which attempt to feed on the animals.

- Pour-ons can protect treated animals for up to two months. Sprays and dips provide shorter periods of protection. The period of protection in the wet season is shorter than in the dry season.

- Raising livestock breeds that are tolerant to the disease. Trypanotolerant breeds: All breeds of cattle can get trypanosomiasis, but some are more tolerant to the disease than others. The Orma Boran is a tolerant breed. This breed exhibits mild clinical signs when infected and sometimes does not become sick at all; it remains productive despite the infection.

Prevention and Treatment

No vaccines exist for protection of animals against nagana or surra. However, the disease can be cured or prevented by use of appropriate drugs. A single treatment with drugs such as Diminazene aceturate products (Berenil® or Veriben®) can cure individual cases of the disease. This drug does not confer protection. Other drugs such as Isometamidium chloride (Samorin® or Trypamidium®), Homidium bromide /chloride (Ethidium®/ Novidium®) are used both to cure existing infections and to offer a period of protection against re-infection. Samorin®/Trypamidium® protects cattle for a period of 2-3 months. All drugs should be purchased
from known suppliers

**Good Practice**

- Tsetse fly control is most effective if the whole community works together. This could be through making or buying traps and targets and maintaining them. It is important to coorporate.

- Fake drugs have been reported to be in circulation in the market, it is important to engage your local veterinary doctor, so that he can treat and prescribe the right drugs for your animals. All drugs are potentially harmful and should be handled with a lot of care. They should be kept out of reach of children to avoid accidental poisoning.

- Drugs should be given by, or under the supervision of, your local veterinary officer. Follow the manufacturers’ instructions carefully.

- Whenever, cattle are migrating into a tsetse infested area or passing through tsetse infested area, they should be given preventive treatment of Samorin/Trypamidium/Veridium at 1.0 mg/kg body weight

- Preventive treatment: the preventive effect of Samorin\textsuperscript{®}/Trypamidium\textsuperscript{®} or Veridium\textsuperscript{®} will be increased if animals receive a curative treatment, at least 2 weeks before, with a drug whose chemical composition is different, such as diminazene aceturate (Berenil/Veriben). This is to avoid development of drug resistance.

- Care should be taken whenever chemicals are used on the farm. Tsetse control insecticides are relatively safe to humans but they can cause skin irritation. Wear protective overalls and gloves. If the products come into contact with your skin, rinse off with plenty of clean water. If the products get in the eyes, again rinse with clean water and seek medical attention. Keep all chemicals in the original containers and out of reach of children and animals. Dispose of empty containers properly and away from water sources. Wash hands thoroughly after use.

- Drug resistance is believed to occur because of previous improper use of trypanocidal drugs or use of sub-standard drugs. It is therefore important to follow the manufacturers’ instructions in order to minimize development of drug resistance and get full benefit from the drugs.
- Measures should be put in place to prevent re-infestation of tsetse flies following successful control/suppression.

### Prevention of disease or pests

- Trypanosomiasis can be prevented by effective control / elimination of tsetse fly populations with Targets, insecticides and treating infected animals with trypanocidal drugs.

- Sterile Insect technique (SIT), is a technique that uses sterile (irradiated) male flies, which are released in tsetse infested areas to clear residual populations of tsetse flies and thus eradicating them.

### Management Strategy

If tsetse flies are a problem in your area, you should contact your local veterinary office, tsetse control office or the Department of Vector-borne Diseases, Ministry of Health.

### Mandate Centres

The Trypanosomiasis Research Centre is mandated “to carry out research into all aspects that would eventually lead to the effective control of zoonotic diseases of economic importance in Kenya and to effective reclamation of respective disease vector-infested lands”.

### Reference Links – book, journal paper, magazine, brochure, bulletin, fact sheet, web etc

http://www.fao.org/docrep/010/ah809e/AH809E02.htm

### Geographic Coverage

![Map of Tsetse Distribution in Kenya](image-url)
Include map of Kenya with counties (use dots to show disease /pest occurrence)