

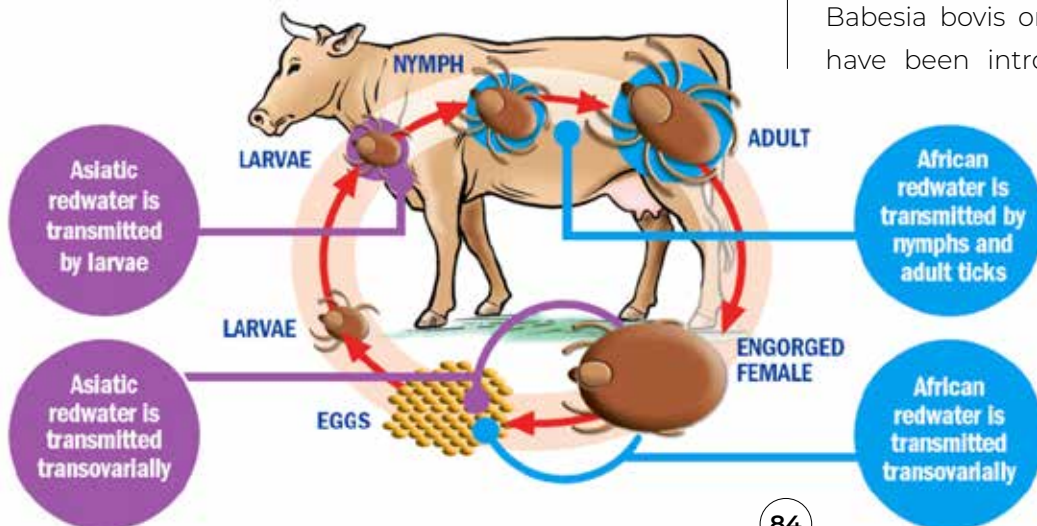
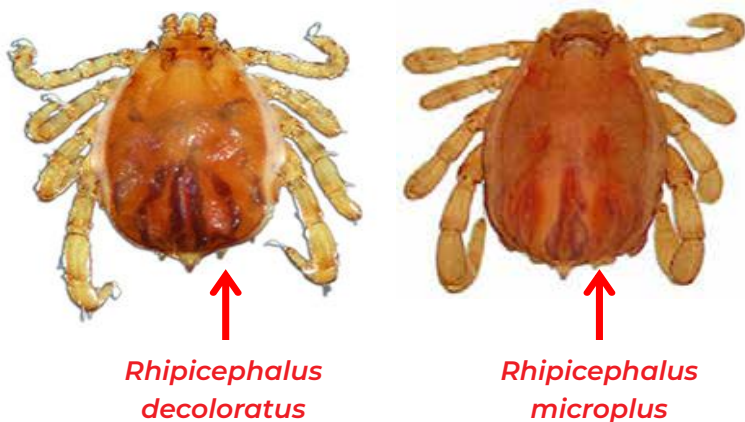
ASIATIC REDWATER

IN SOUTH AFRICA

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1. What is Asiatic Red Water?

Asiatic Red Water is a tick-borne disease transmitted by the larval stage of the *Rhipicephalus microplus* tick



(Pantropic Blue tick) and is caused by an organism known as *Babesia bovis*.

The female tick becomes infected while feeding on an infected animal or a carrier animal. After having a blood meal containing the *Babesia Bovis* organism, the engorged female tick then drops off and lays \pm 2500 eggs. (About 0.04% of ticks transmit the disease.)

Symptoms of the disease begin 9 - 14 days after infection and include fever and nervous symptoms such as convulsions, incoordination, muscle tremors, and coma. Other potential symptoms are anaemia, listlessness, a dry nose, unwillingness to move, poor appetite, a dull coat, abortion, diarrhoea, and jaundice.

2. How is it spread?

Asiatic Redwater is transmitted by the larval stage of the Pantropic bluetick. This disease occurs where the Pantropic Blue tick population in the area becomes infected by the *Babesia bovis* organism and also where carrier animals have been introduced into areas that previously had

clean/uninfected Pantropic Blue tick populations, or where infected ticks are introduced into an area where they did not occur before. The larvae are no longer infectious after feeding.

Adult ticks must feed on an infected animal to become infected, however, they, in turn, do not infect other

Closer Examination

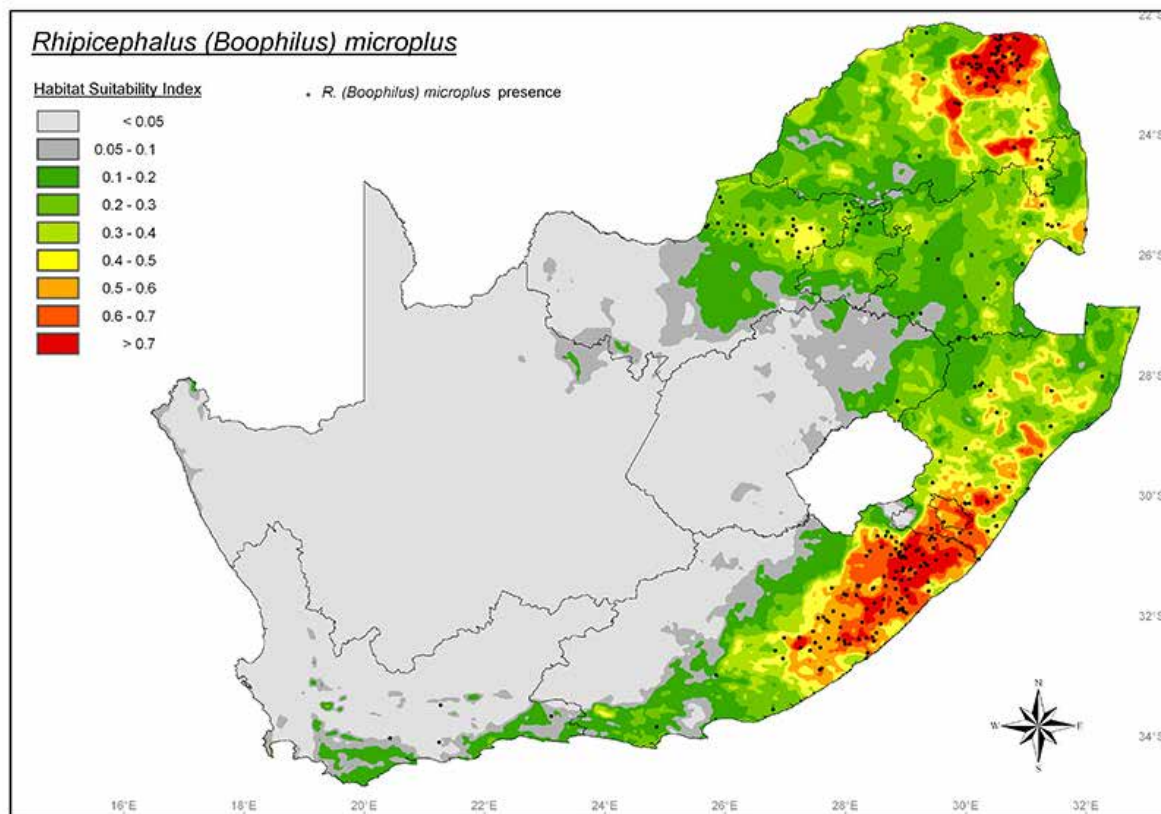
Whenever the first signs of disease are observed a closer examination must be done and the following methodology must be followed:

1. Take the animals temperature
2. Examine the inside lining of the eyelid
3. Examination of the rest of the body

In order to examine cattle properly they need to be constrained in a crush pen. This is in many cases the limiting factor in early disease identification and treatment.



1. Take the animals temperature.



animals. The infected female tick lays infected eggs that ultimately hatch out to become infected larvae. The larva then loses its infection after feeding and then develops into a non-infective nymph and later a non-infective adult.

The speed of transmission can change during or after a heatwave. If the ambient temperature is $\geq 35^{\circ}\text{C}$ for 3 days or more, or $\geq 30^{\circ}\text{C}$ for 8 days, then the larvae can infect their host within 24 hours, and the host develops the peracute form of the disease. After latching onto the animal, the larvae have already transmitted the Babesia parasite, even before a blood meal is taken. (The cycle is speeded up in the salivary glands of the larval tick.)

Under cooler ambient conditions, symptoms are only seen in 9 – 14 days.

The Nguni cattle breed has good natural immunity against African Redwater but poor immunity against European Redwater. African Redwater is transmitted by the nymph and adult ticks, and it is, therefore, easier to establish a stable situation on your farm - the animals are continually challenged by the Babesia bigemina organism, spread by the blue tick (*Rhipicephalus decoloratus* and *Rhipicephalus microplus*). These animals are therefore able to keep their immunity because they are continuously challenged.

3. If I have Asiatic Redwater in my herd, what do I do?



Confirmation of the specific organism causing disease or death must be done by microscopic examination. Although these diseases develop over a long period, the cattle may die within 12 - 24 hours after the first signs of disease have been observed.

If these signs are missed, you will only realize that there is a problem when you find the first dead animal. Once you realise there is a problem and diagnose the disease during the examination, the blood loss/anaemia is already severe.

The treatment will only kill the blood parasites so that they do not infect and destroy more red blood cells.

Only the animal's bone marrow can correct the blood loss by producing new red blood cells, however, this may take several days (>1 week).

Fever, together with white inner eyelids, are signs that the animal is infected by a blood parasite but does not indicate the specific cause.

Only a veterinarian, examining a blood or brain smear, can determine the cause.

B

Establish immunity using blood vaccines.

Vaccinate your animals with the Asiatic Redwater blood vaccine from Onderstepoort.

C

Prevent disease transmission by weekly dipping.

- Dip animals every seven days
- Tactical dipping (times of high risk)
- Do not use injectable antiparasitic products because the larva can bite and infect its host before it takes in enough blood containing the drug needed to kill the tick
- Depending on the area and climate, a dipping program can be worked out together with your local Veterinarian

Closer Examination

The thermometer is the only diagnostic tool available to the livestock worker. An electronic of mercury thermometer can be used.

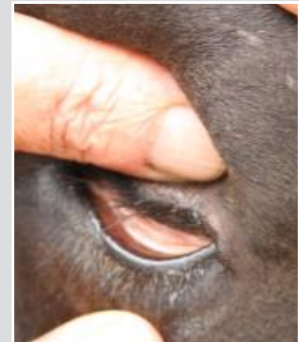
Each livestock worker must be trained in the skill of taking temperature and have a thermometer with him/her at all times. If a mercury thermometer is used the reading of the thermometer is a specific skill that must be taught.

In the case of African redwater the temperature will be 40°C and higher as soon as the first general signs of disease are observed and the animal is examined.

2. Examine the lining of the inside eyelid.

The colour of the inside eyelid gives an indication of the status of the blood supply.

The normal colour of the inside eyelid is pink.



The correct way to open the eye to examine the colour of the inside eyelid.



Lift the thick eyebank with the fingers



Close the top eyelid with the thumb



Gently push the eye bulb in

4. Treatment

Dizene Cattle (7ml/100kg) once only, together with Terramycin LA (1ml/10kg every 72 hours) or Forray 65 (1ml/100kg live weight) once only, if the animal is suffering from gall sickness as well, plus supportive treatment consisting of Rumix powder and Vitamin B, can be used.

Dipping is effective in controlling the ticks – use Amitraz/Cypermethrin combination products. Frequent dipping helps to reduce the numbers of ticks.

5. In Conclusion

Since a large area of the Eastern Cape, as well as parts of the Northern Cape and Free State, already have the vectors/ticks on their farms, you need to be very vigilant to avoid bringing a positive/sick animal, or a carrier animal onto your farm. These animals may carry contaminated ticks or larvae and potentially infect the tick population on your farm. Once you have an infected tick population, it is very difficult to get rid of Asiatic Redwater. ■

Closer Examination

With the other thumb pull the lower lid down until the inner eyelid bulge out or is clearly visible.

In the case of African redwater the inner eyelid will be white which is a specific sign of severe blood loss.



3. Examination of the rest of the body.

The rest of the head and body are then examined as part of the complete examination – no extra signs of disease can normally be seen in the case of African redwater.



firmed in cattle, jackals with an abnormal behavioral pattern were seen before the onset of symptoms in cattle.

- Rabid jackals were often encountered at watering places where they attacked cattle. Cases where a so-called “tame” jackal was seen wandering aimlessly around, later becoming aggressive and even killing domestic animals or attacking humans without provocation, were also described.
- In farming areas, 60% of the jackals were encountered at or in farm buildings. Almost 50% were aggressive and 37% attacked humans or farm animals.
- The main victims of jackal rabies are cattle, as there is a significant association between cattle and jackal cases.

The following clinical signs were observed in cattle:

HYDROPHILIA

Sick animals were often found near watering points. Animals would repeatedly unsuccessfully attempt to drink water by submerging their muzzles in the water. (Early onset of pharyngeal paralysis).

RESULT: Emaciation, dehydration, extreme craving for water.

SALIVATION

Terminal stages of rabies showing excessive salivation. In most cases, salivation was observed, more often only a slight dribbling rather than copious salivation. “Bone in the throat syndrome” – farmers exposed to rabies while trying to assist animals.

BELLOWING

A characteristic hoarse to high-pitched bellow. Continuous bellowing for variable periods and

also attempts to bellow, without producing any sound were observed. Hence the Afrikaans name “bulksiekte”. (Bellowing disease).

COMPLICATIONS

Vomiting of ruminal contents, subcutaneous emphysema resulting from pulmonary emphysema.

AGGRESSIVENESS

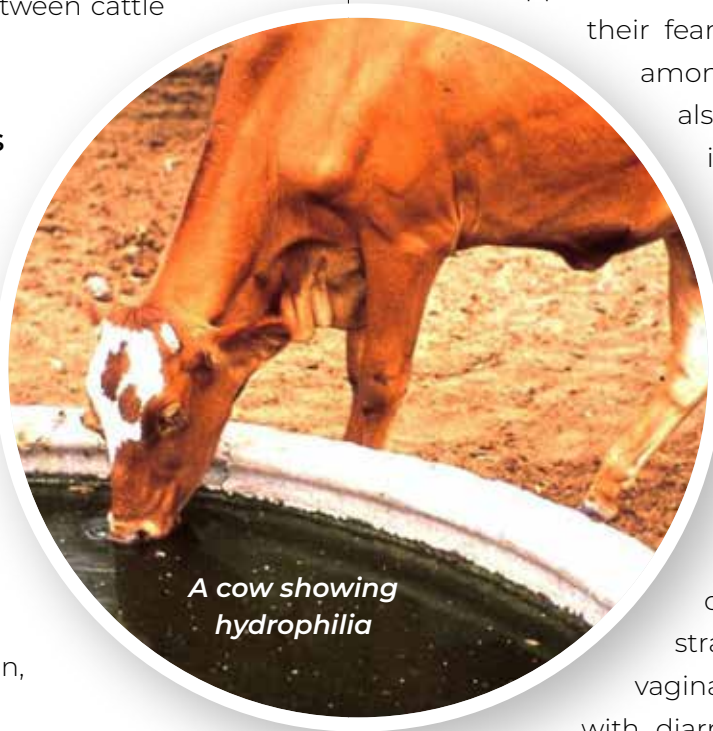
Cattle usually manifested some form of aggressiveness. Only a few were really vicious. Most animals turned aggressive only on provocation. Rabid cattle could be approached with ease and seemed to lose their fear of human beings. Fighting amongst bulls and butting was also observed, while in other instances animals would make vicious attacks on inanimate objects such as fence posts, drinking troughs etc.

STRAINING

This clinical sign was constantly observed and was often interpreted by stockmen to be some form of constipation. Between bouts of straining air was drawn into the vagina and/or rectum. Tenesmus with diarrhoea and frequent urination. Hindquarters soiled with dark-coloured faeces. (Tail paralysis). Farmers confused this clinical sign with the typical straining often seen during parturition.

PSEUDO-OESTRUS

Pregnant and non-pregnant heifers and cows showed signs of oestrus. Continuous attempts were made to mount other cattle.



A cow showing hydrophilia



Terminal stages of rabies showing excessive salivation