

FEATURES

- The Blue Ticks
- Bont Ticks
- Brown Ticks
- Red legged Ticks
- Bont Legged Ticks

Ticks And Cattle

The dangers of tick infestation are well known to most farmers: heavy infestations cause anaemia, ticks with long mouthparts cause abscesses and damage to hides and organs such as the udder, and many ticks transmit disease. But few farmers are aware of the effect of "tick worry" –this is the negative effect on the growth of animals and their production due to the effects of a toxin in the saliva of ticks. Moderate to heavy tick infestations can therefore have a significant effect on the growth and production of animals. In this article the emphasis is placed on the ticks which are found on cattle, their distribution, life cycle and importance.

Distribution and lifecycle

It is important to recognise that there are different types of ticks, and distinguishing between them can be difficult. Female ticks when they have fed and are engorged (swollen) look very similar. In addition the immature and male ticks of many species look very similar. The correct identification of ticks is helpful when monitoring tick control: for example blue ticks which are one-host ticks are

much easier to control with chemicals because they spend more time on the animals than the two- and three-host ticks

What are the differences between one, two and three host ticks?

One-host ticks: all three stages of the lifecycle (larvae, nymphs and adults) feed on one host (SEE ILLUSTRATION). In the case of blue ticks this single host is usually cattle.

Two-host ticks: the larvae and nymphs feed on a host until they become adults at which stage they drop off and feed on a second host.

Three-host ticks: each of the three stages of the lifecycle feed on different hosts, including some wild species such as hares, tortoises and ground birds. As a result these ticks have a longer lifecycle and are more difficult to control.

BLUE TICKS

Boophilus decoloratus

en *B. microplus*

ONE-HOST TICK

- Distribution: *B. decoloratus* is the most widespread and is the most common cattle tick

Photo 1: Blue tick infestation of the udder (Dr Robin Taylor)



in S.A. Its distribution is limited by dry conditions. *B. microplus* is an introduced tick and less common, although its range is widening in SA. The limiting factor for this tick is frost.

- Site of attachment: blue ticks prefer the neck, the underline and the flanks.
- When found: blue ticks are one host ticks with a short lifecycle which is completed on the cattle host. The lifecycle is roughly 2 months long and therefore blue ticks have a rapid generation time in comparison with the two-and three-host ticks. They are found in summer and



Blue ticks are exposed most often to dips and are unfortunately most likely to develop resistance to dips

are most active from September to June ; in colder areas they are inactive during the winter.

- Importance: blue ticks carry redwater and anaplasmosis, cause tick “worry” and anaemia. Control: regular dipping in summer at 3 weekly intervals with longer intervals in the winter. They are exposed most often to

Photo 2: Coloured patterns of the male bont tick. (OVI)



dips and are unfortunately most likely to develop resistance to dips.

BONT TICKS

***Amblyomma hebraeum*
THREE-HOST TICK**

Amblyomma hebraeum is the most important bont tick in South Africa. The males have the characteristic “bont” or coloured patterns and both male and female adult ticks

have very long mouth parts.

- Distribution: they occur in the eastern parts of the country where the rainfall and the mean temperature is higher. The bont tick prefers bushveld to grassland habitats. .

- Site of attachment: nymphs are found on the feet and the larvae on the head. Adults prefer the hairless areas of the body- the belly, groin, armpit, and the area around the anus and the tail bush.

- When: the bont tick has a long lifecycle which can take 5 months to 3 years to complete. They are active in late summer to autumn, with a peak in the spring.

- Importance: they are important as transmitters of heartwater and their long mouth parts cause damage to hides and cause abscesses. They tend to be clustered in groups and can therefore cause serious damage to udders, teats and sheath of the penis.

Control: these are three host ticks which require weekly dipping in summer for disease control but also in autumn when the immatures are numerous

BROWN TICKS

***Rhipicephalus appendiculatus* (Brown ear tick)
THREE-HOST TICK**

- Distribution: the ticks

occur in the east, central and coastal areas. They prefer savannah habitat with trees.

- Site of attachment: cattle may get heavy infestations of

Photo 3: Brown ear tick infestation showing “bleeding spots”. (Dr Robin Taylor)

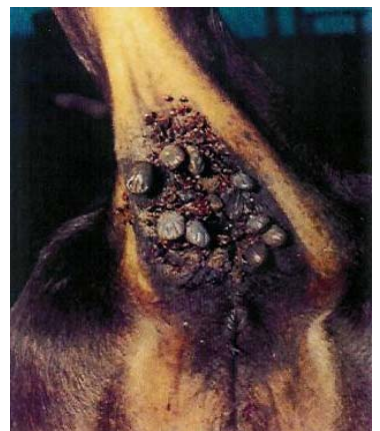


all stages: the adults cluster in the ears where they cause the “bleeding ear” syndrome. Immature ticks are found on the head and neck.

- When: adults are numerous in December and March , the larvae in March- July and the nymphs in June to October.

- Importance: these ticks cause tick toxicosis and damage to ears. They also transmit

Photo 4. Red-legged ticks under the tail. (Schering Plough)



East Coast Fever and Corridor Disease (both Theilerial diseases)

Control: as for bont ticks but due to their short feeding cycle, a 5-5-4 day dipping program may be necessary with heavy infestations. For good control of this tick one must ensure good wetting of the ears.

RED LEGGED TICKS (*Rhipicephalus evertsi*)

TWO-HOST TICK

- Distribution: in eastern parts of the country.
 - Site of attachment: Larvae and nymphs are found deep in the ear canal, while the adults are seen around the anus.
 - When: these ticks are numerous during wet seasons.
 - Importance: they transmit anaplasmosis and equine babesiosis. They also cause spring lamb paralysis (tick toxicosis) in some areas of the highveld
- Control: the ticks favourite attachment sites are those which are difficult to wet during dipping and special attention must be given to these areas. Spot treatment may be necessary.

Photo 5: Bont-legged tick female. (Schering Plough)



BONT-LEGGED TICKS

Hyalomma marginatum rufipes and *H. truncatum*

TWO-HOST TICK

- Distribution: widespread except in the winter rainfall areas and high lying areas where snow falls in winter.
 - Site of attachment: the ticks attach around the anus but also along the underline and between the hoofs and on the tip of the tail.
 - When: the larvae and nymphs are numerous during dry winters and the adults during the wet summers.
 - Importance: bont-legged ticks transmit Congo Haemorrhagic fever of humans and anaplasmosis. They can be the cause of sweating sickness (tick toxicosis) in calves. The long mouth-parts cause serious wounds, abscesses and can be the primary cause of screwworm strikes.
- Control: because this is a two-host tick, it is more difficult to reduce tick numbers with dipping. Local treatment may be required in addition to dipping.

SOFT TICKS OR TAMPANS

Sand tampan (*Ornithodoros savignyi*)

- Distribution: they occur in arid areas of the country such as the Kalahari. The sand tampan spends most of its time under the sand where they wait for animals to rest in the shade of trees. They then climb onto the resting animals. Sand tampans can literally survive for years without a meal.
 - When: infestations occur throughout the year but especially during hot weather.
 - Site of attachment: they attach to any part of the body but especially the legs.
 - Importance: the bites are painful and the tampans secrete a toxin in the saliva which can kill animals, especially calves when they have heavy infestations.
- Control: weekly dipping or dipping every 2 weeks depending on the dip being used.

Spinose ear tick (*Otobius megnini*)

- Distribution: dry areas of the country. Infestations occur in kraals and stables where they survive for long periods of time.
 - When: throughout the year especially warmer periods.
 - Site of attachment: they feed in the ears of cattle as well as other animals, especially horses.
 - Importance: they can damage the eardrums permanently. Infested animals are restless and feed poorly.
- Control: there is no prevention but affected animals can be treated with tick grease/oil applied into the ears.

Tick borne diseases and tick control

Dr. Pamela Hunter

These are covered in separate articles.