TICK CONTROL STRATEGIES

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There are many tick species that occur in South Africa. We broadly classify them as either hard- (ixodid) or soft- (argasid) ticks. The hard ticks can also be broadly classified as one-host ticks or multi-host ticks. Typical one-host ticks include the African blue tick (*Rhipicephalus (Boophilus) decoloratus*) and the Pantropical blue tick (*Rhipicephalus (Boophilus) microplus*). Multi-host ticks that are commonly found and that are of specific relevance include the Brown ear tick (*Rhipicephalus appendiculatus*), the Bont-legged tick (*Hyalomma truncatum*), the Bont tick (*Amblyomma hebraeum*), the Red-legged tick (*Rhipicephalus evertsi evertsi*) and the Karoo paralysis tick (*Ixodes rubicundes*). The two soft ticks that are of relevance to ruminants include the sand tampan (*Ornithodorus savignyi*) and the spinous ear tick (*Otobius megnini*).

The life cycle of blue ticks is very short and the development from the egg stage to the larval, nymph and adult stage, which occurs on one-host may be as short as 21 days. The engorged female tick also lay between 1000-2500 eggs which will hatch within 3-6 weeks whereafter the immature larval stages will wait for another host to attach to. The numbers and tick load of blue ticks can therefore increase very quickly and exponentially which may result in severe tick burdens. Blue tick numbers start to increase from spring and reaches peak levels during late summer and autumn. The life cycle of multi-host ticks generally takes a longer time to complete (6 months to several years) because of the different stages they will climb on and develop on multiple hosts. The female tick also lay a large batch of eggs. The numbers of multi-host ticks generally start to increase a bit later from the start of summer and will also peak during the autumn months. The numbers of multi-host ticks can also increase significantly, and high tick burdens can be reached.

All these ticks have specific predilection sites on the animals. For example, the blue ticks are commonly found all over the body whereas the brown ear ticks attach predominantly in the ears of cattle. Bont ticks and bont-legged ticks are usually found attached on the chest, ventral abdomen, teats, udders, and testes and around the anus. Bont ticks and Bont-legged ticks also attach between the claws of small stock. Due to these tick's long mouth parts, they may cause wounds, abscess formation and lameness. Identifying the tick species and notifying their predilection sites is of importance to develop and implement a suitable tick control strategy.

Apart from the transmission of tick-borne diseases, ticks cause indirect production losses through reduced weight gains, blood loss, wounds, abscess formation, secondary blow fly infestation, lameness, damage to hides and reduced fertility.

Tick control:
Various tick control methods and strategies can be used to reduce the negative effect of ticks. Since the climatic and environmental conditions (topography, habitat, fauna and flora) on each farm is unique, every farm will have a unique tick control strategy and specific tick control intervals. Tick control methods that can be used include plunge dips, spray races, back-pack spraying, pour-ons and injectable solutions.

The use of plunge dips and spray races are very effective and cost-effective methods to control ticks. These two methods require enough water and appropriate infrastructure, management, and maintenance to ensure optimal efficacy. The use of back-pack spaying is one of the most cost-effective methods to control ticks and can especially be used when it is only necessary to do spot treatment to target the specific attachments sites of specific ticks. But this method can also be used to treat the whole body of the animal if necessary. The pour-on method is a very convenient method to use to control ticks, especially where many animals should be treated and where the necessary infrastructure and resources are not in place to allow plunge dipping or spray races. Injectable solutions are also a very convenient method to control blue ticks. Long-acting solutions are available that may assist to control ticks for residual periods.

There are only a few acaricide active ingredients that are available to control ticks. Tick resistance against acaricides is already a serious problem worldwide. The correct strategy and responsible use of these acaricides is therefore advised to prevent acaricide resistance.

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