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Agriculture
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PROVINCE OF KWAZULU-NATAL

LIVING WITH TICKS

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Why should beef cattle live with ticks?

The presence of cattle and KZN's temperature and humidity conditions make an ideal environment for ticks to survive and reproduce. Ticks hinder cattle production through their blood sucking habits; blood loss (under severe infestation), physical damage to ears, teats and hides by abrasive mouth parts and the transmitting of tick-borne diseases (heart water, red water and gall sickness). Although it would appear beneficial to have an intensive dipping program to "get rid" of ticks it is not a viable solution in the long-term. Multi host ticks are not always present on cattle. For example wild animals such as hares, buck, mongooses are hosts for the larval and nymph stages of the brown ear tick. All stages (larval, nymph and adult) of the brown ear tick feed quickly on the host, within 4 to 7 days. The other factor to consider is that an intensive dipping program is not the answer to the tick-borne disease (TBD) threat. The most effective way for cattle not to be susceptible to TBD is to have immunity against the disease. This entails exposure ("challenge") to the disease (via infected ticks) at a young age (6 to 9 months) when the animal has a natural immunity to fight off the disease i.e. calves under 9 months of age should not be dipped to aid in the acquiring of immunity against TBD. Even adult cattle need to have on going exposure to infected ticks to maintain immunity against TBD. If cattle are not exposed to infected ticks as a result of an intensive dipping program then there will be a breakdown in TBD exposure. Cattle then become naïve and are susceptible to contracting TBD.

How is it possible for beef cattle to live with ticks?

1. Practice strategic dipping. Cattle are dipped at pre-determined times to control future tick populations even if ticks can't be seen on cattle. For example, cattle should be dipped in early spring after approximately a few weeks of warm weather when larvae have hatched (no ticks will be visible with the naked eye at this stage).
2. Practice tactical dipping. Cattle are dipped when a certain number of engorged blue ticks are visible.
3. Ensure the correct dip to water ratio, i.e. use dip at prescribed strength. Don't use dip at double strength as it increases the rate at which dip resistance occurs.
4. Ensure effective application/cover of the dip on cattle.
5. Choice of dip depends on previous use of dips and current resistance to dips.
6. Be aware of active ingredients of dips. Don't switch between active ingredients. Use one active ingredient until resistance to it has been established.
7. If dipping interval is 2 weeks or less, then the dip has not worked. The larval and nymph stage of the blue tick have not been killed by the dip. Investigate dip concentration on site and then pursue dip resistance testing.
8. Do dip resistance testing when changing dips.
9. Don't dip calves under 9 months for immunity purposes. Spot treat ears and udders with tick grease if necessary.
10. If farm conditions are not favourable to challenge cattle with TBD infected ticks then vaccination of weaners should be considered.
11. When buying new cattle, don't import foreign ticks onto your farm. Ensure that cattle are tick free before arriving at your farm.
12. Ideally, the best way to live with ticks is to select for tick resistant cattle. This would entail inspecting cattle before dipping, record which are carrying fewer ticks and then sort them to not get dipped. Over time tick susceptible cattle should be culled.
13. Choose a breed that is tick resistant. The results of a study comparing the number of adult *R. decoloratus* (blue tick) ticks over a two year period were as follows: Nguni 4%, Brahman 8%, Afrikaner 10%, Bonsmara 17% and Simmentaler 61% (Rechav & Kostrzewski, 1991).

In conclusion, tick control requires an integrated approach, implementing as many of the above-mentioned points as far as possible.