



Emerging Problem of Acaricide Resistance in Cattle Tick *Rhipicephalus microplus*

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Infestation of cattle with the one host tick, *Rhipicephalus microplus* (*R. microplus*) has been reported from most of the tropical and subtropical countries and it is ranked as the most economically important ectoparasite of the cattle in the world. The global loss due to ticks and tick-borne diseases (TTBDs) was estimated to be between US\$ 13.9 and 18.7 billion annually while in India the cost of controlling TTBDs has been estimated as US\$ 498.7 million/annum. Food and Agriculture Organisation estimated that 80% of the world's cattle population is at the risk of tick infestations which are responsible for severe economic losses to livestock owners both through the direct effects of blood sucking, injecting toxins and indirectly as vectors of various pathogens. Globally, chemical control remains the foundation of tick control programs. The rampant and indiscriminate use of acaricides by livestock farmers has culminated into development of resistance in *R. microplus* ticks. It is reported that *R. microplus* has developed resistance to almost every chemicals registered for use against it and ranked sixth amongst the resistant arthropods. In India, a survey based on questionnaires in a sampled population of manufacturers and farmers reported the presence of a wide spread acaricidal resistance. The problem of TTBDs is particularly relevant in India because of the favorable environmental conditions for tick survival for most parts of the year and the maintenance of susceptible cross-bred animals to improve the production of milk and other animal products. It is observed that very few livestock owners seek technical advice for acaricide use and adopted a personal convenient strategy to manage tick infestations on their animals by increasing the number of treatments or by increasing the dose of chemicals resulted in the development and spread of resistance. There is need for continuous monitoring of acaricide resistance in the field situation

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through bioassay, biochemical and molecular tools for strategic application of available acaricides and for maintaining the life span of the existing products. I wish happy new year to the readers of the journal and hope that the veterinary fraternity will take appropriate actions to combat the emerging problem of acaricide resistance through extensive education of livestock owners on appropriate acaricide use and demerits of indiscriminate use of acaricides.

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