

Further studies on South African plants: Acaricidal activity of organic plant extracts against *Rhipicephalus (Boophilus) microplus* (Acari: Ixodidae)

Wellington, KW
Leboho, T
Sakong, BM
Adenubi, OT
Eloff, JN
Fouche, G

ABSTRACT:

The goal of our research is to develop a lower cost eco-friendly tick control method because acaricides that are commonly used to control ticks are often toxic, harmful to the environment or too expensive for resource-limited farmers. Acetone and ethanol extracts were prepared and their acaricidal activities determined against the southern cattle tick, *Rhipicephalus (Boophilus) microplus*. A 1% solution of each of the plant extracts was prepared for efficacy testing using the adapted Shaw Larval Immersion Test (SLIT). The acetone stem extract from *Cissus quadrangularis* (Vitaceae) and the ethanol leaf and flower extract from *Calpurnia aurea* (Fabaceae) had potent activity like that of the commercial acaricide, chlorfenvinphos [corrected mortality (CM) = 100.0%]. The ethanol extracts of the stem of *C. quadrangularis* (CM = 98.9%) and that of the roots, leaves and fruit of *Senna italica* subsp *arachoides* (CM = 96.7%) also had good acaricidal activity. There is potential for the development of botanicals as natural acaricides against *R. (B.) microplus* that can be used commercially to protect animals against tick infestation. Further studies to isolate the acaricidal active compounds and to determine the environmental fate, species toxicity and skin toxicity of these plants species are, however, required before they can be considered as a treatment against ticks.