

" ISOLATION OF REFERENCE STRAINS OF RHIPICEPHALUS
APPENDICULATUS (Neumann) AND BOOPHILUS DECOLORATUS
(Koch) SUSCEPTIBLE TO ORGANOPHOSPHORUS ACARICIDES
IN USE IN KENYA."

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SUMMARY.

Tick-borne diseases are the cause of high cattle mortalities in Kenya. No vaccines are yet available for the four main tick-borne diseases, viz: babesiosis, anaplasmosis, Heartwater and East Coast fever (E.C.F.) though there are drugs available for their treatment. Therefore, tick control is the only practical way for prevention of these diseases.

The aim of this study was to obtain susceptible strains of both Boophilus decoloratus and Rhipicephalus appendiculatus, the two important tick species in Kenya as reference strains in monitoring the development of resistance to acaricides.

Engorged female ticks were collected from different areas in Kajiado and Narok districts of Kenya. These areas, except two (one around Ngong town and another around Narok town) were known to have had no history of tick control using organophosphorus compounds either in plunge dips, powered sprays or hand spraying. Larvae ensuing from the engorged females were subjected to the Shaw immersion test (Shaw, 1966). The susceptibility status of the investigated strains as well as the potency of the acaricides tested was determined from the dosage response data.

All the samples, totalling 28 with exception of two, were susceptible to the four acaricides tested (dioxathion, oxinothiophos, chlorfenvinphos 30 percent w/v and chlorfenvinphos 110 percent w/v). There was no difference in the response to the acaricides between the fully susceptible strains of Rhipicephalus appendiculatus and Boophilus decoloratus ($P > 0.05$). However for the two resistant strains that were tested, the two formulations of chlorfenvinphos were found to be more potent than either dioxathion or oxinothiophos.