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**COMPARATIVE EFFICACY OF TOBACCO LEAVES AND AMITRAZ  
(MILBITRAZ®) AGAINST TICKS**

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## Approval

This Proposal is submitted with the approval of my supervisor.

Signed .....  


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Date .....  




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## **Abbreviations and Acronyms**

AIT: Adult Immersion Test

ELT: Egg Laying Test

FAO: Food and Agriculture Organization

Conc.: Concentration

Spp.: species

# CHAPTER ONE

## INTRODUCTION

### 1.0 Background

Ectoparasite infestation is one of the major problems affecting livestock industries in many parts of the world. Ticks are considered as one of the important and harmful blood sucking ectoparasites of livestock and human around the world after the mosquitoes (Zahir and Rahuman, 2012).

The most economically important tick species that parasitize domestic animals in Africa include *Rhipicephalus spp.*, *Boophilus spp.*, and *Amblyomma spp* (De Castro, 1997). These tick vector parasites cause fatal diseases such as theileriosis, babesiosis, anaplasmosis and cowdriosis. The cattle tick, *Rhipicephalus appendiculatus* is one of the most important ectoparasites of cattle and is widely distributed in tropical and subtropical regions including Uganda.

*Rhipicephalus appendiculatus* causes huge economic loss in cattle production by reducing weight gain, milk production and causing tick worry, blood loss, hide damage and injection of toxins. Further, indirectly they also involve in disease transmission like East Coast Fever.

Keeping in view the impact of ticks and tick borne diseases on the individual and national economics the developing world should focus on tick control on a priority basis. At present the use of synthetic chemicals is the backbone to control the tick infestations.

The future of chemical tick control is under serious threat due to reports of emergence of multiple acaricide resistance (Mendes et al., 2011; Vudriko et al., 2016). Recent findings that revealed the emergence of tick resistance against ivermectin, fipronil (Castro-Janer et al., 2011; Mendes et al., 2011) and fluazuron (Reck et al., 2014) suggest that care must be taken to preserve the efficacy of the existing chemicals, lest there would be no options.

Whenever acaricides fail, there is an exponential increase in tick population leading to tick worries, increase in the incidence and costs associated with treatment of tick- borne diseases (Foil et al., 2004). Alternatively, natural bioactive phyto-acaricides are increasingly being used for tick control as they have additional advantages such as low toxicity and more eco-friendly (Fernandes and Freitas, 2007).