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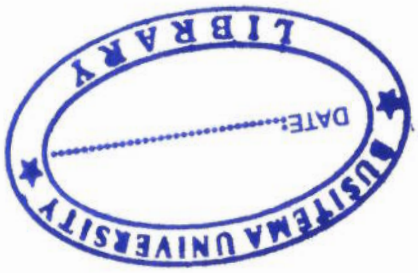
USE OF PYRETHROIDS AND AMIDINES AGAINST TICKS IN GWERI SUB COUNTY SOROTI DISTRICT



BY

EPIANGU THOMAS

BU/UG/2012/1780

tepiangu@yahoo.com

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DECLARATION

I **Epiangu Thomas** declare that this dissertation is a result of my original work except where stated by references and it has never been submitted in any other university for any award.

Date.....12/08/2015..... **Signed**.....

DEDICATION

I dedicate this work to my family that is to say the family of Mr. Opolot Bosco and Mrs. Arao Elizabeth that, May the good God keep blessing them each day that passes not forgetting all my friends and the staff of Gweri sub county together with the Soroti veterinary staff thanks very much may the Holy God bless you all.

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LIST OF ABBREVIATIONS

DVO District Veterinary Officer

PUS Primary sampling unit

RAP Restricted Application Protocol

SAPs Structural Adjustment Program

SOS Stamp Out Sleeping Sickness

SPSS Statistical Package for Social Scientists

TBDs Tick Borne Diseases

VRS Village registration system

ABSTRACT

Across sectional to assess the use of Pyrethroids and Amidines in control of ticks by farmers in Gweri sub county Soroti district. A total of 120 farmers keeping livestock were interviewed using structured questionnaires. Multistage ramdom sampling technique was to select the respondents. The common brands of Acaricides used by farmers in Gweri Sub County were: Amitix (44.2%), Norotraz (19.2%), Sypertix (11.7%), Cypermethrin (10.0%), Milibitraz (10.0%), and Alfapor (5.0%). In most cases Acaricides were applied through spraying (80.8%), the rest of the farmers applied by Dipping (0.8%), Hand washing (5.0%), Pour-on (2.5%), while others (10.8%) used local methods like sprinkling using leaves. The Equipments used for Acaricide application were mainly hand sprayers (58.3%), others used Knap sac sprayers (29.2%), the rest used Ruwenzori bottles (2.5%), Dip tank (0.8%), bucket/foot pump (5.8%), while 3.3% used leaves. Most of the farmers applied Acaricides when the ticks are seen (64%), some 18% applied when the animal is sick, 13% applied after every two weeks and 5% applied at least every month. Chi-Square test of the relationship between the respondents' socioeconomic characteristics (Gender $\chi 2=7.278$: Education levels $\chi 2=7.050$: Marital status $\chi 2=15.035$: Household size $\chi 2=22.050$: Occupation $\chi 2=127.690$) and the Frequency of Acaricide application by the farmers was statistically significant ($P<0.1\%$) at 10% confidence level.

The Pyrethroids used in Gweri Sub County included: Cypermethrin, Alfapor and Sypertix while the Amidines used included Amitix, Norotraz and Milbitraz. The most used class of Acaricides was the Amidines compared to Pyrethroids which was the least used class of Acaricides. The spraying method was dominantly used compared to the sprinkling method which was the least used method. The most used interval of Acaricide application was when the parasites are seen. Sensitization and education campaigns in the area by the district veterinary staff and extension agents on the use of Pyrethroids based Acaricides that are perceived to be effective in control of the vectors and their pathogen in cattle.

CHAPTER ONE

INTRODUCTION

1.1 Background

Pyrethroids and Amidines are classes of Acaricides used in the control of ticks and prevention of tick born diseases (TBDS) in cattle and other livestock. Acaricides that target both the vector and the pathogen in cattle are Pyrethroids and Acaricides that target mostly ticks are Amidines which are available in the veterinary market and in Gweri Sub County (Stampoutsleeping 2009). Acaricide use in Uganda has been largely 'decentralized to the farmer' but the boundaries between public and private good have become blurred. Government policy views livestock keeping as a 'business', where inputs (even to control certain vectors and Zoonotic diseases) must be paid for by the farmer while the infected patient suffering from sleeping sickness is treated by the public health system (Graham et al., 1974). Ticks are the most significant African livestock vectors affecting livestock and wildlife the infected ticks shade pathogens like Ethrlichia ruminantium, Anaplasma marginale, Babesia bovis and Theileria parva that cause tick borne diseases such as Babesiosis, Anaplasmosis, East coast Fever and Cowdiosis found in Gweri sub county Uganda and Africa with a major impact on cattle mortality and low productivity (Barnett et al., 1961).

In the past and currently, Pyrethroids-based products and Amidines-based products are sold privately in the rural market and 82% of all farmers in Gweri Sub county were using Amidines (Amitix, milbitraz and Norotraz) which have been considered having a low insecticidal activity to ticks and other vectors while 18% of farmers were using Pyrethroids insecticides (Sypertix, Cypermethrin and Alfapor) which are considered to posses high insecticidal activity to ticks (Bram et al., 1975). For a sustainable livestock production, there is need for use of pyrethroids and amidines in Tick control. However, farmers and acaricides manufacturers, the distributers should promote Pyrethroids based-acaricide use against ticks in spite of the sole delivery of veterinary services and the liberalization of the veterinary drug market, most veterinary drugs are sold by private agro-veterinary shops, farmers and a variety of trained and untrained animal health workers who self-treat with changing practices and inelastic budgets (Umali D et al., 1994).Environmental and human effects like the geographical location of Gweri Sub County, with Savanna grass land vegetation, livestock flocks and movements, Human population and

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