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POTENTIAL OF CATTLE MARKETS IN SPREAD OF TICKS, TICKBORNE DISEASES AND TICK ACARICIDE RESISTANCE: ACASE STUDY OF BUKEDEA, ARAPAI AND KASILO CATTLE MARKETS IN TESO SUB REGION

BY

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APPROVAL

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DEDICATION

The dissertation is dedicated to my sister and dearest friend NAMUYOMBA GRACE and KIWANDA ABDULLAH for their moral and spiritual efforts towards my education, may the almighty bless her accordingly. This dissertation is also dedicated to all my friends who have contributed towards my success at school.

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LIST OF ABBREVIATIONS

BHC: benzene hexachloride

ECF: east coast fever

DDA: dairy development authority

MAAIF: ministry of agriculture, animal industry and fisheries

spp; specie

ABSTRACT

This study focused on cattle markets with a purpose of finding out the potential in the spread of ticks, tick borne diseases and tick acaricide resistance. They involved Arapai, Kasilo and Bukedea region in Teso region. The study involved 48 respondents who were selected randomly. There were 120 animals sampled whose data was recorded on data collection sheet. Technical personnel were involved with whom questionnaires were administered, and observations were done at the premises.

Analysis was done using both in Microsoft excel and SPSS version 20, Chicago. Tick abundance was calculated by getting the total of ticks on all the animals and divided by the total number of animals in each of the market.

The results revealed the common origins (districts) of animals were (13.5%) Soroti, (6.2%) Ngora and (6.1%) Bukedea. The common destinations of animals were to lira (31.4%), kampala (22.9%), pallisa (20%), south sudan (8.6%), Gulu (2.9%). From the study, most of the respondents were farmers (75%) and the rest (25%) were traders. Most of the animals were moved specifically for breeding (42.8%), slaughter (28.5%), sale (17.1%) and draft power.

The results revealed that *Amblyomma* was most highly loaded tick amongst animals in cattle markets (30 ticks per animal), *Rhipicephalus appendiculatus* (18 ticks per animal) and lastly *Rhipicephalus decoloratus* (12 ticks per animal). It was also noticed that ticks were most highly loaded amongst cattle in Arapai (37%), Bukedea (32%) and lastly Kasilo (31%).

From the study, the risk factors that led to the spread of a high ticks, TBDs and tick acaricide resistance included inadequate advice given to the traders and farmers in the cattle market farmers and traders ignorance about the ticks and their dangers (80%), use of weak class of acaricides (69%), environments around cattle markets, wrong dilution of acaricides (66.7%) .

In conclusion, there is a great potential of Arapai, Kasilo and Bukedea cattle markets to spread of ticks TBDs and acaricide resistant ticks. Recommendations are Tick control measures should be put in place at every cattle market, qualified personnel have to be employed and research regarding relation of tick load and diseases should be carriedout in cattle markets.

CHAPTER ONE

1.1 Background to the Study:

The world total cattle population is estimated to be 1467.55 million (world agricultural international, 2013). Livestock contribute 40 % of the global value of agricultural output and support the livelihoods and food security of almost a 1.3 billion people (FAO 2013). Livestock and its inputs are a growing economic sector. The livelihood and income effects of the livestock economy are huge (FAO 2013). More than a billion people keep livestock, 60% of rural households do so (Von Braun *et al.*, 2010). It's a major income source of the poor and especially of women in developing countries. The dairy industry in particular, plays a strong role for the livelihood of poor people (Von Braun *et al.*, 2010).

Ticks and TBDs are of major importance throughout the world but are most prevalent and exert their greatest impact in the tropical and sub-tropical regions (Norval *et al.*,1992). Ticks are one of the leading vectors of diseases of economic importance to the livestock industry in Africa. In most countries of Africa, over 30 % of calf crop is lost to TBDs (Okello *et al.*, 1994; Otim, 1989). These diseases also account for nearly 90 % of total disease control costs and over 60 % of total farm inputs (Muhanguzi *et al.*, 2014).

In Uganda cattle play a significant role in the socio-economic life of the people of the nation. In addition to the products of meat and milk cattle provide draught power for cultivation of the agricultural lands of many peasants. Skins and hides are also important components of the livestock sector in generating foreign export earnings (Ociba *et al.*, 1990).

Despite of the fact that cattle play a major role to the people of the nation, they are faced with the challenge of ticks (Gebre *et al.*, 2001). There are various species of ticks found on livestock and most of them have importance as vector and disease causing agents and also have damaging effect on skin and hide production Ticks, besides being important vectors for diseases like Theileriosis, anaplasmosis, babesiosis and heart water in domestic animals, they also cause non specific symptoms like anemia, dermatosis, toxicosis and paralysis (Gebre *et al.*, 2001).

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