

**BUSITEMA
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Pursuing Excellence

FACULTY OF AGRICULTURE AND ANIMAL SCIENCES

DEPARTMENT OF ANIMAL PRODUCTION AND MANAGEMENT

**LIMITATIONS TO THE ADOPTION OF ARTIFICIAL INSEMINATION BY DAIRY
FARMERS IN BUNDIBUGYO DISTRICT
A CASE STUDY IN BUSARU SUB-COUNTY**

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**A RESEARCH DISSERTATION SUBMITTED TO THE FACULTY OF AGRICULTURE
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DECLARATION

This dissertation contains my own work and has never been submitted to any institution for any assistance or award of academic credit or qualification.

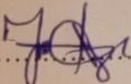
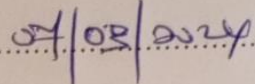
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APPROVAL

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DEDICATION

I dedicate this research dissertation to my lovely children AINOMUGISA ETHAN and ALINAITWE DORCUS.

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LIST OF ABBREVIATIONS

AI Artificial Insemination

NAGRIC & DB National Agricultural Resources Research Center and Data Bank

EADD East Africa Development Project

FAO Food and Agriculture Organization

NGO Non-Governmental Organizations

PRA Participatory Rural Appraisal

MAAIF Ministry of Agriculture, Animal Industry, and Fisheries

NAGRC&DB National Animal Genetic Resources Centre and Data Bank

UNFFE Uganda National Farmers Federation

NaLIRRI National Livestock Resources Research Institute

ABSTRACT

Artificial insemination (A.I) is the technique of transferring semen containing viable spermatozoa collected from male animals into the reproductive tract of the female animals to facilitate conception without natural sexual intercourse, the technique has had its presence in Uganda for over 60 years, but less than 10% of the country's herd population has been using this

technology. This research aimed to identify and understand the key limitations that hinder the widespread adoption of AI in Busaru sub-county Bundibugyo district using a multi stage random sampling procedure, 102 respondents were selected from 3 parishes and 34 farmers from the parishes of Bugombwa, Kirindi, and Basaru. From the study, only 19.4% of the farmers use artificial insemination. Farmer's knowledge about the technology also stood at 51% and from the 51% of the respondents who were knowledgeable about artificial insemination, 36.5% use the technology. The results also indicate that out of 36.5% of the respondents who use artificial insemination method, 36.8% use the method always which is the smaller percentage as compared to 63.2% of the respondents who opt to use the method according to their wish. The low adoption of Artificial insemination was attributed to various factors such as the service being too expensive to farmers, the service not being available, other farmers said the process is not reliable, some farmers could not also detect the signs of heat themselves, others cited poor pregnancy results for not using the method, religious and cultural barriers also limited other farmers, some farmers also feared that the process could harm their animals, while some advocates for animal rights did not also participate in the process. Furthermore, a small group of farmers just hated the process and this could also influence the prevalent reliance on traditional methods.

Key words: Artificial insemination, breeding, Busaru sub-county, adoption, limitations, and dairy production.

CHAPTER ONE

INTRODUCTION

1.1 Background

Artificial insemination (A.I) is the technique of transferring semen containing viable spermatozoa collected from male animals into the reproductive tract of the female animals to facilitate conception without natural sexual intercourse (Gebre *et al.*, 2022). It is one of a group of technologies commonly known as assisted reproduction technology (Waiswa *et al.*, 2021). A.I is widely used for livestock breeding around the world with more than 70% of the dairy animals in the developing world being bred using this technology (Peter E. J. Bols, 2010).

Artificial insemination is a necessary tool in sustainable farm animals breeding (DeJarnette *et al.*, 2004). It is important technique that offers several advantages over natural mating. It's used as a method of reproduction, particularly in the dairy sector; it has enormous economic benefits through genetic improvement of milk production, the control of venereal and other diseases, and lethal genes (Eklundh, 2013). The method promises a prevention of reproductive disease that might be spread by natural mating and allows the use of several superior breeds within a herd which is not possible through natural service(M., 2011). The major benefit of the technique is that it offers excellent possibilities to genetically improve the livestock, especially for the small scale farmers so that their production and productivity are enhanced. Additionally, A I prevents in breeding and replacing the bull after every two years(Waiswa *et al.*, 2021).

The semen used for AI comes from healthy, disease free bulls with desirable genetic traits, such traits for dairy production would include the high milk yield, high butter fat content, high growth rate, ease of calving down by the mother animal among others (Patel *et al.*, 2017). AI however require established infrastructure and specific practices like proper handling, storage and transportation of semen which are critical to maintain the quality of semen(Yeste *et al.*, 2017). For this reason farmers often work with trained AI technicians who can assist in the insemination

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