

**SUITABILITY OF THE NETTLE PLANT (URTICA DIOICA) FOR
TEXTILE FIBER APPLICATIONS.**



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**A FINAL YEAR DESSERTATION SUBMITTED TO THE
DEPARTMENT OF TEXTILE AND GINNING ENGINEERING IN
FULFILMENT FOR THE AWARD OF A BACHELORS DEGREE IN
TEXTILE ENGINEERING**

DECLARATION

The contents of this research paper “Suitability of the nettle plant (*Urtica Dioica*) for textile fiber applications” have been prepared and submitted by WANDIRA DENIS. He completed this research work under close supervision of Mr. Rwawiire Samson.

I will therefore be held responsible in case any copy of this document is found anywhere in any institution of learning.

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DEDICATION

Allow me dedicate this wonderful piece of work to my dear parents who have struggled to nurture me spiritually, mentally and psychologically and enabled me to get all through to university. May the good lord bless them abundantly.

ACKNOWLEDGEMENT

An extensive research like this one always requires assistance and suggestions from experts and friends for knowledge and advice. This research paper has benefited from the suggestions made by many individuals. It is indeed a pleasant honor and responsibility of the author to thank and acknowledge the services of all those parties that have contributed to this study.

My first and foremost thanks go to my one and only supervisor Mr. Rwawiire Samson. Sir, I wish to extend my sincere and deep gratitude for your constant valuable guidance and advice, as well as your unflagging patience from the beginning to the end of this study. I must say you have been a source of knowledge, guidance and encouragement to my research.

It is with appreciation that I wish to thank my dear parents for the financial help and support they provided to me during this tough period of research. I must say your advice as well played a remarkable role towards making my research a great success.

Special thanks also go to the management of Nyanza Textile industries that enabled me to perform some of my fiber tests in their laboratories. I must say your contribution was very vital for my research work.

I also feel pleased to express my gratitude to my course mates especially, Luggya George , Damalie and Drajoru Winniefred for their support during this research period. You were all a source of inspiration and may God reward you abundantly, not forgetting the most important of all, the almighty God, who has blessed my all through the research period.

APPROVAL

This project report is submitted for examination with the approval of the following supervisor.

MR. RWAWIIRE SAMSON

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ABSTRACT

This research paper establishes the possibility of using nettle from Uganda as a source of fibers for textile applications.

Chapter one covers the objectives of the study, the scope as well as the justification for the study while chapter two gives information relating to previous researches carried out on similar topics.

Chapter three shows the methods and materials used to conduct this research while chapter four has the results and discussions.

Chapter five contains the challenges and recommendations for the study.

From this research, the properties of nettle that were realized closely indicate that this wonderful plant can produce viable fibers for the textile industry. This is because good fiber length was obtained as well as good resistance to chemicals. The moisture content of these fibers was also determined as well.

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LIST OF ACRONYMS

Consignment

This is the quantity of material delivered at the same time for testing.

Zoning

Is a method used for selection samples from raw materials whose properties may vary considerably from place to place.

Test lot/batch

Are materials whose properties are to be tested or characterized and it is equivalent to the statistical population.

Scouring refers to the treatment of cellulosic fibers with a strong alkali solution to remove the remaining water soluble impurities from the fibers.

Taxonomy: This is the science of classifying living things.

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CHAPTER ONE

1.0 BACKGROUND

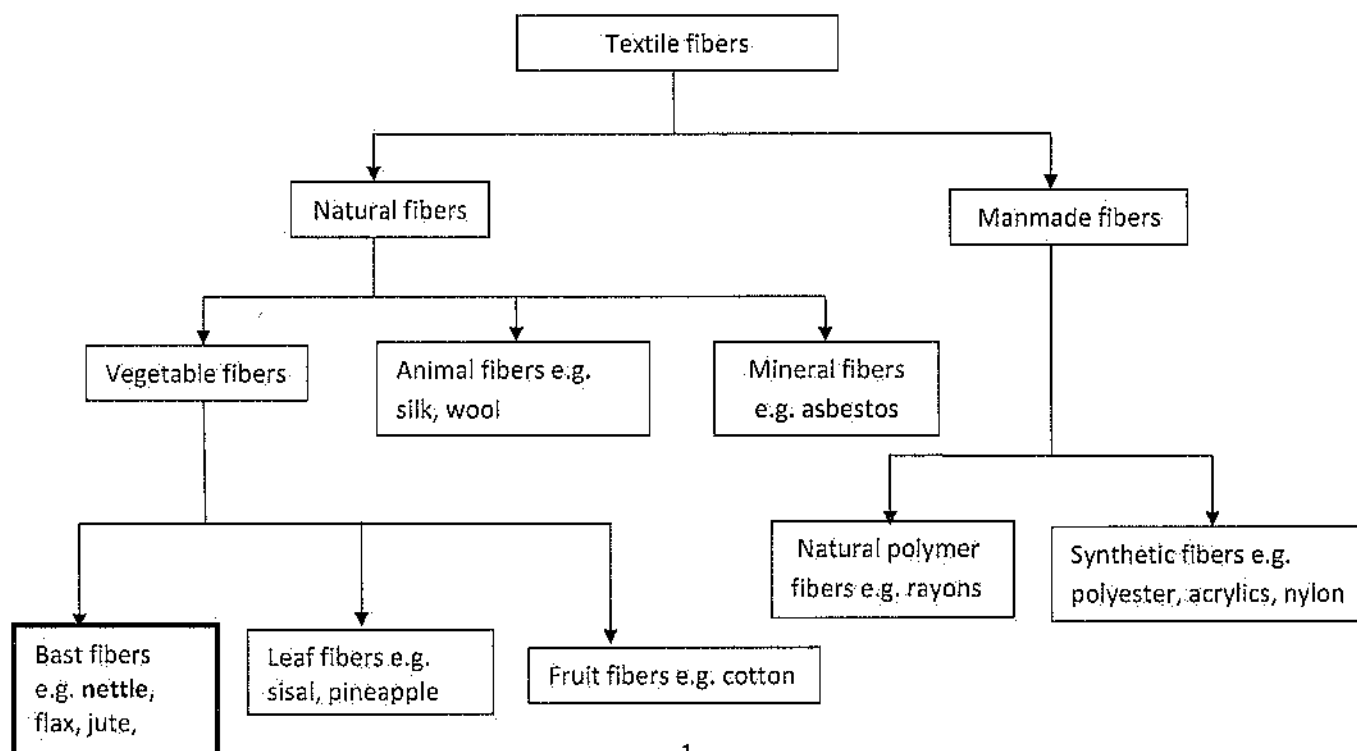
1.1 INTRODUCTION:

A textile fiber is a unit of matter characterized by flexibility, fineness and a high degree of length to width ratio. The most notable and important properties of textile fibers are: length, strength, flexibility and elasticity. Other remarkable properties of a fiber are absorbency, weight, abundance and cheapness and to valorize basically implies to add value to something. Therefore valorization of nettle means adding value to the nettle plant thus as a fiber source for the case of Uganda.

Nettle belongs to the plant kingdom from a family of urticaceae and contains about 500 species. It is mainly tropical though several others occur widely in temperate climates.

Nettle stalks produce a type of fibers known as bast fibers. These fibers are sometimes referred to as soft fibers while leaf fibers are referred to as hard fibers. These fibers are extracted from the bast tissue or external part of the stalk (bark) of nettle.

Figure 1 The general classification of textile fibers is given below:



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