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Characterization of Sustainable Water Hyacinth Fabric

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***Abstract*: Water hyacinth (Eichhornia crassipes) is free floating perennial plant native to tropical and sub- tropical South America. The water hyacinth plant is easily spread over the water. It has both negative and also positive aspects. The water hyacinth plant is easily available in ponds, lakes and reservoirs. Initially we have to collect the water hyacinth plant from the water bodies. I have collected about 200 to 250 plants from the Bhavani River. After extracting the plant, the stem should be separated out from the plant and it is washed thoroughly. After completing the washing process, the stems are slit opened. The slit opened stems are dried with the help of the sunlight. This process is called is retting of fibers. This retting process makes the fibers to shrink. This retting process takes place about 15-18 days. Fiber to yarn by spinning process. Yarn to fabric by using sample loom process.**

***Keywords*: Slit, Retting, Fiber, Yarn, Fabric.**

1. Introduction

Water hyacinth (*Eichhornia crassipes*) constitutes an important part of an aquatic ecosystem. In the last three decades a special interest in the world is aroused by the potential of using the biological methods in the waste water treatment.

A. Fiber Extraction

The matured water hyacinth plants were identified and collected about 15-30 inches long and 0.15-1.2 inches in diameter. Collected plants are washed well in water after washing, leaves and roots were separated from stem. Finally, stem was taken for chemical treatment to improve absorbency of the fabric.

1) Collection of Water Hyancinth

The water hyacinth plant is easily available in ponds, lakes and reservoirs. Initially we have to collect the water hyacinth plant from the water bodies. I have collected about 200 to 250 plants from the Bhavani River

2) Removal and Slit Open of the Stem

After extracting the plant, the stem should be separated out from the plant and it is washed thoroughly. After completing the washing process, the stems are slit opened. i.e the water hyacinth stem has a hollow structured so that slit is open and make it flattened.

3) Dry Retting

The water hyacinth plant is taken from the lake and the stem divide is straightforward. Drying of water hyacinth stem has been characterized as a procedure that liberates wet material of its fluid or dampness content by uncovering the water hyacinth stem to a specific drying temperature. Moreover, lack of hydration is characterized as the loss of all fluid or dampness content from a material (water hyacinth). Along these lines lack of hydration can result from a drying procedure. In this examination, the drying procedure of water hyacinth gets completed, until the point when the examples achieved zero harmony dampness content (else it is alluded to as lack of hydration). In any case for the motivations behind consistency in detailing, the entire procedure including the end purpose of drying, that is purpose of zero balance dampness content was accounted for as drying. The drying procedure of water hyacinth stem yields a connection between the dampness content and the drying time, which empowers the forecast of drying rates for the scope of drying temperatures, can differ because of the sun beams. Since it is dried in normal daylight. After washing and separating the dry retting process takes place. The slit opened stems are dried with the help of the sunlight. This process is called is retting of fibers. This retting process makes the fibers to shrink. This retting process takes place about 15-18 days.

4) Fiber to Yarn

Yarn by spinning process

5) Yarn to Fabric

Yarn by using by sample loom

The [1] Water hyacinth as a resource of agriculture and energy production], [2] The chemical control programme against the water hyacinth, [3]Impact of herbicides used in water hyacinth control on natural enemies released against the weed for biological control., [4] processing of water hyacinth fiber to improve its absorbency, [5] Sustainable Development.

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