Research Article

EVALUATION ON NATURAL FIBERS AND ITS PROPERTIES

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Abstract

Natural fiber is attaining improved consideration among the researchers due to their biodegradability, good mechanical properties, low density, and abundance. Natural fibers made of cellulose or plant matter can be attained from each portion of the plant or tress such as the stem, leaf, fruit, root and bark from many species. Most textile fibers are slender, flexible and comparatively strong. Cotton, silk, wool, jute, hemp are the common natural fibers which being using for a long and deliberate as traditional fibers. As time went, fibers have been compelling from many other plants and trees sources. Among this category, few fibers such as pineapple leaf, milkweed seeds, and flax seeds offering their properties excellent,[2] these natural fibers have a vibrant part in playing commercial need of organic costumes and also applicable for medical products also. This paper is about the review of natural fibers and its properties with its benefits.

Keywords: Natural fiber, Cotton, Organic Clothing

Introduction

Industries are commonly using plant fibres for several uses from various resources. The countries growing plants and trees are not only for agricultural purpose and besides to produce raw materials for industries. The world production of natural fibres is increasing since the product base is growing each year; more synthetic fibres and high energy consuming products are being replaced by natural-fibre based products because of its exceptional properties.[1]

The component which is present in plants produces enormous health benefits to external and internal ways to human beings. In recent times, nature and environment related products replacing synthetic based stuffs. At the present time, every man is keen on to go with organic products particularly in food and clothing.

Further plant fibres, many animal fibres also have dissimilar kinds such as silk, feathers, wool and animal hairs which are major source. Since of those reasons natural fibres have been use in many developing countries. It has a lot of applications in technical textiles which tragedy a vigorous role in all its grouping.

Properties of Natural Fibres

The word commercial is else superior, anything can be advanced which should be has its commercial value. Amongst many natural resources there are few fibres which we can extract simple but custom is supplementary. *Pineapple Leaf Fibre*: Pineapple leaf fibre is very mutual in tropical regions and actually simple to extract fibres from its leaves. Pineapple is superlative natural fibres having utmost cellulosic content nearly 75% to 82%. The consumption of pineapple leaf fibre in is a new basis of materials which can be eco-friendly, economic and recyclable. The properties existing in the pine apple leaf fibre benefits to progress the products in construction materials, furniture, home textiles, sound proof materials.

Natural fibres are regularly utilized in the research as a replacement of glass fibre. When evaluate to glass fibre, those natural fibres are economical, lower density, less abrasion. The dyeing property also good when compare with other natural fibre. Pineapple fibre is used for making cloth and also at times combined with silk or polyester to manufacture textile fabrics. Pineapple fibre is also used for table linens, bags, mats and other clothing items[2] Natural fibres ensure the advantages of low density, low cost and biodegradability. However, the main shortcomings of natural fibres in composites are the poor compatibility between fibre and matrix and the relative high moisture sorption. Therefore, chemical treatments are considered in modifying the fibre surface properties[4]

This fibre can be used to create yarns for textile applications. Certain future plans for various purposes are sports, automobiles, baggage, machinery attachments such as transmission cloth, cords, carpets, rugs etc., Hence, it is one of the greatest natural fibres which are extreme untouched in research and now fetching significant in research area.

Milkweed fibre: One of the fibre which deliberate as adaptable substitutive fibre with uncountable unique properties is milkweed fibre. It has the applications for eco-friendly products and also non-allergic textile materials which we make use of medical related goods. The Milkweed fibre (Asclepias syriaca), often "vegetable silk", is a seed floss that is similar to the Rux fibre (Caleotropis gigantea) of Southeast Asia[3]

Struggles to regenerate habitats for bugs that depend on on exact plant groups as larvae or adults depend on the capability of experts to raise and harvest these plants. Monarch larvae feed completely on milkweed species, largely in the genus. *Asclepias*, forming circulation and rebuilding of these plants critical for habitat restoration. Seed germination procedures for milkweeds are not fine recognized, in part due to the large quantity of milkweed species and contradictory reports of seed latency in the genus.

The structure of milkweed fibre has its hollow structure with buoyancy properties are desired. Like cotton, it is a single cell fibre but unrestricted from convolutions and has small cellulose content. The surface of the fibre is else smooth, hence its spinning process is quite tough. Blending property is also good in this fibre.

Indian mallow Fiber: Indian mallow is in the form of shrubs, erect with many branches, its height up to 2 to 3 meter long. This plant can be found in low bushes, riverside, roadsides and few people use to grow it at home for personal medical purpose. This plant has long roots, thin barks which is easily peel able. Indian mallow leaf has much medicinal purpose for both external and internal way.

Flaxseed fibre: Flax fibres sought in textiles due to its positive qualities like rich hygroscopicity, anti-electrostatic properties, high absorption and gives comfort in clothing. It also provides lustre effect, durable, less stretchy than other fibres like cotton and jute. The part stalk produces fine quality with worthy strength and stability and has unique. The common milkweed offers two dissimilar useful kinds i.e., stalk fibre and floss.

Conclusion

The term "pollution" has a specific role in indulging our mother nature. The field textiles have one of its chief portions polluting nature by its chemical processing. Preparatory process such as dyeing, printing, designing all those procedure desires assortments of chemical based compounds. Clothing is one of the essential requirements of human. In this, fibre has a chief part in reducing synthetics and increasing natural fibre makes our earth healthier. The fibres mentioned above has good physical and mechanical properties which it can utilized to make medicinal fabric, home textiles, agro textiles and also for geotech. The quantity of clothing production cannot be reduced.

But, in the concept of caring nature, those issues can be swapped by manufacturing and growing the clothing products and textile based raw materials naturally.

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