Natural Fibers Handbook with Cultivation & Uses

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Natural fibers production, processing and export are vital to the economies of many developing countries and the livelihoods of millions of small scale farmers and low wage workers. Almost all natural fibers are produced by agriculture, and the major part is harvested in the developing world. It is convenient to classify natural fiber in two ways; morphologically, according to the part of plant from which they are obtained and practically according to the uses to which they are put, which in turn depend on their properties. From the view point of the uses vegetable fibers may be classified into following groups; textile fibers, cordage fibers, brush and mat fibers, stuffing and upholstery materials, paper making materials etc. Fibers from the view point of the part are classified as hair fibers, leaf fibers, woody fibers, bast fibers, etc. The use of fibers for paper making differs completely from their use in textiles, in that in papermaking it is ultimate fiber cells which are used; thus in papermaking process consists in breaking down the strands of fiber into the ultimate fibers. Jute, the most important textile fiber apart from cotton, is obtained from two species of corchorus(white jute) and C.olitoriusL. (tossa jute). Farmers around the world produce a wide variety of natural fibres, planting crops and rearing animals. Plant fibres may be from the plant fruit (e.g. cotton), stems (e.g. flax and jute) or leaf (e.g.sisal). Natural fibres are generally considered more environment friendly than synthetics in their production and disposal. However, there is great variation depending on the fibre and the growing conditions. Many chemicals are used to contain pests and weeds. Chemicals are also used in the processing and dyeing which can lead to water contamination. Processing of some natural fibers can lead to high levels of water pollutants, but they consist mostly of biodegradable compounds, in contrast to the persistent chemicals, including heavy metals, released in the effluent from synthetic fiber processing. Farming and production of natural fibres also plays a significant role in eradicating poverty as an important source of farming income and contribution to food security in developing countries. Demand for natural fiber composites are largely driven by increasing environmental awareness. Due to low cost, low density, acceptable specific properties, ease of separation, enhanced energy recovery, CO2 neutrality, biodegradability and recyclable properties, natural fiber use in composites is gaining as demand grows for component materials that are durable, reliable, light weight, with mechanical properties better than those of traditional materials. Total global natural fiber composite market expected to grow at 11% CAGR.

Some of the fundamentals of the book are the occurrence and nature of vegetable fibres, conditions necessary for growing flax, mulberry family (moraceae), lime family (titliaceae), experiments on mechanized production of jute, mallow family (malvaceae), kenaf production in various other countries, the use of unretted kenaf ribbons for sack manufacture, pea family (leguminosae), sterculia family (sterculiaceae), agave family (agavaceae), structure of the sisal

industry, narcissus family (amaryllidaceae), lily family (liliaceae), pineapple family (bromeliaceae), fibres from other species of musa and a related genus, brush making fibres, etc.
The book contains process and other parameters for the manufacturing of fibers arrive from natural sources. Due to eco friendly nature there is very good domestic and export potentiality for natural fiber. This is very useful book for new generation entrepreneurs, consultant institutional libraries, and existing units.

Breeding Experiments
Cultivation
Harvesting
Yield
Retting
Breaking and Scutching
Hemp in China
Hemp in Chile
Quality of Hemp
Properties and Uses of Hemp

4. LIME FAMILY (TITLIACEAE)
Jute (Corchorus Capsularis and C. Olitorius)
Cultivation
Soil
Preparation of the Soil
Sowing
Varieties
Harvesting
Retting
Extraction of Fibre
Cost of Production
Jute in Brazil
Jute in China
Production in Taiwan
Experiments on Mechanized Production of Jute
Varieties
Cultivation
Harvesting
Ribboning
Scutching
Retting
Washing
Drying and Storage
Sorting and Grading
Production of Jute in Other Countries
Burma
U.S.S.R
Borneo
Malaya
Philippines
Thailand
Nepal
Vietnam

Iran
Peru
Miscellaneous Countries
Sorting and Grading of Jute
Uses of Jute
The Jute Trade
Triumfetta Species
Honckeny Ficifolia

Funga Fibre (Cephalonema Polyandrum)

5. MALLOW FAMILY (MALVACEAE)
Knaf (Hibicus Cannabinus)
Varieties
Sowing
Harvesting
Growth Phases
Retting
Pests and Diseases
Kenaf in India
Kenaf Production in Various Other Countries
Argentina
China
Egypt
Guatemala
Haiti
Italy
Mexico
Mozamibque
North Africa
Papua and New Guinea
Peru
Southern Rhodesia
Spain
Thailand
South Africa
Economics of Kenaf
The Use of Unretted Kenaf Ribbons for Sack Manufacture
Properties of Kenaf
Roselle (Hibiscus Sabdariffa)
Fibres From Other Species of Hibiscus
Urena Lobata
Cultivation
Retting
Yields
Distribution
Labour Requirements in Fibre Preparation
Grading of the Fibre
Properties and Uses
Trade
Abutilon Species
Sida Species
Pavonia Species
Thespesia Species
Miscellaneous Fibre Plants of the Malvaceae

6. NETTLE FAMILY (URTICACEAE)
Ramie (Boehmeria Nivea and its Var. Tenacissima)
Varieties
Soils and Growing Conditions
Planting
Harvesting

Straw
Bamboo
Bagasse
Other Materials

20. MISCELLANEOUS FIBRES
Toquilla (Carludovica Palmata)
Preparation For Making Panama Hats
Weaving and Bleaching
Alpinia Chinensis
Polygala Gomesiana And Other Sources or Rope, etc.

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