



COTTON



BARK CLOTH



KAPOK



ARABIAN CAMEL

NATURAL

PHOTOGRAPHIC ENCYCLOPEDIA

FIBERS



ABACA



HEMP



MILK WEED



COIR



PINEAPPLE



FLAX



BANANA



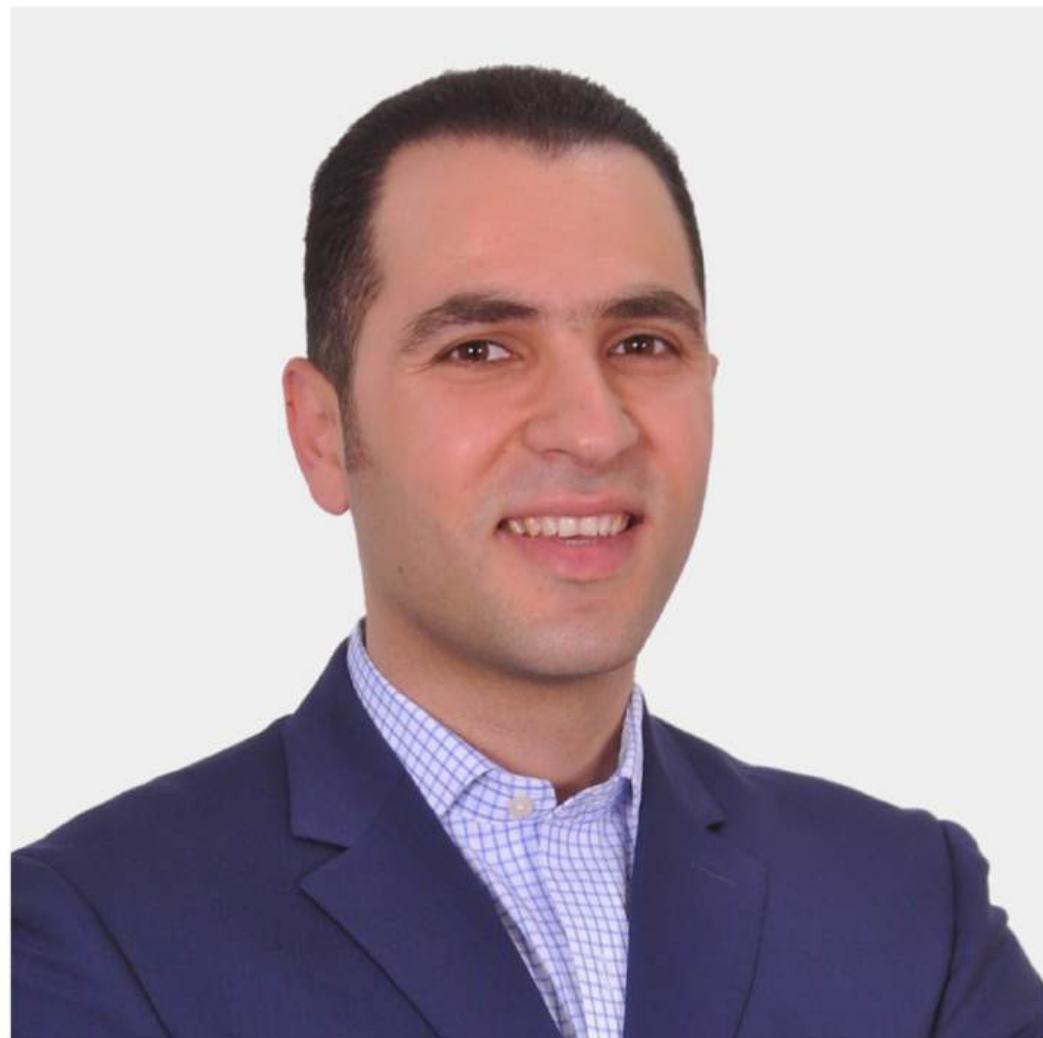
SILK

Photographic Encyclopedia of Natural Fibers

Cairo, Egypt – 2025

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Fiber production data sourced from FAOSTAT. Data on
pineapple and banana from FIBRAL Materials Alliance.



About the Author

Dr. Mohamad Midani is a leading expert in natural fibers and bio-based materials with over 18 years of experience in research, teaching, and industry.

He is Managing Partner of Intexive Consult, Adjunct Associate Professor at NC State University and the German University in Cairo, and a recipient of the 2024 DNFI Innovation Award for developing PalmFil®, the first fiber from date palm byproducts.

Dr. Midani is a certified NPDP and a key voice in advancing the circular bioeconomy in the Arab world.

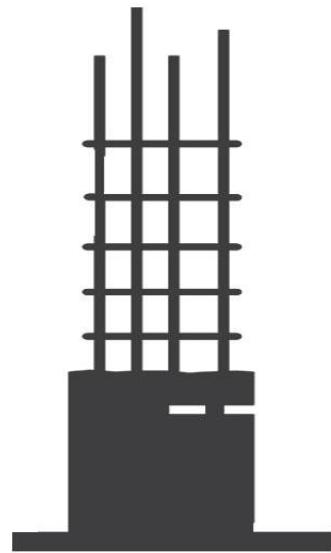
Functions of Fibers in Plants

Bast

e.g. Jute



Structural support



Leaf

e.g. Sisal

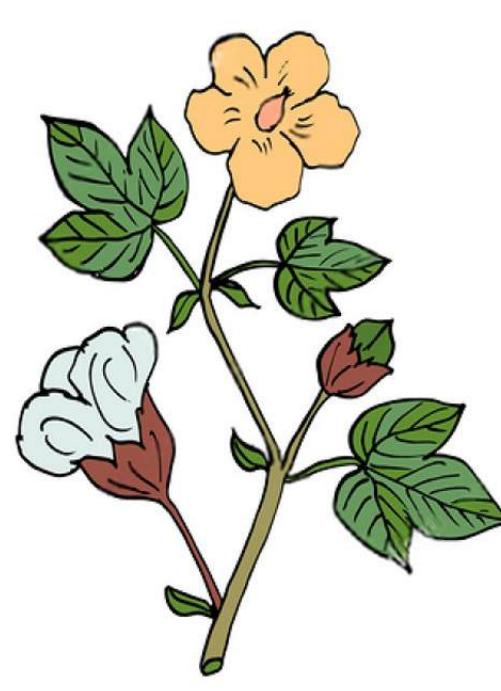


Water transport

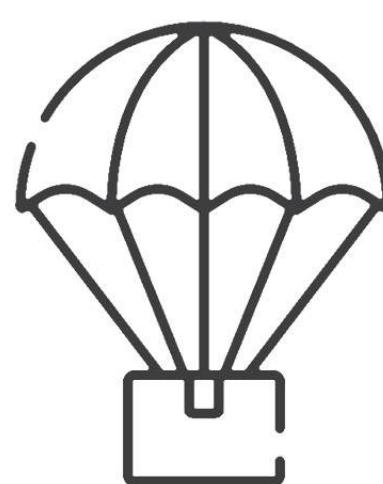


Seed

e.g. Cotton



Seed dispersal

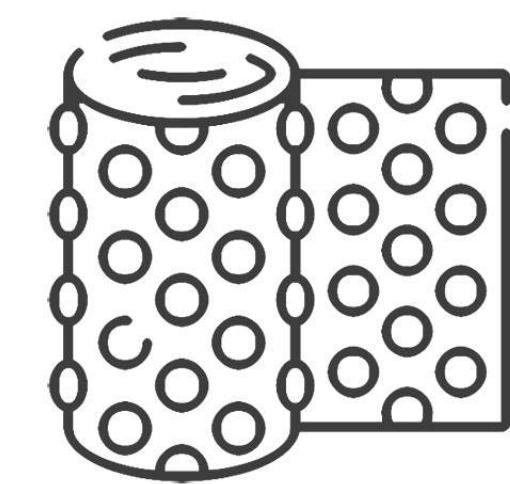


Fruit

e.g. Coir



Protection/
Cushioning





Flax Fiber

Plant: *Linum usitatissimum*

Class: Bast Fiber



Global Production (2023)
709 Thousand Tons

Major Applications:
Textiles, Plumbing, Paper,

Major Producers
France, Belgium and Belarus



Hemp Fiber

Plant: *Cannabis sativa*

Class: Bast Fiber



Global Production (2023)
315 Thousand Tons

Major Applications:
Textiles and Insulation

Major Producers
France and China



Kenaf Fiber

Plant: *Hibiscus cannabinus*

Class: Bast Fiber



Global Production (2023)
228 Thousand Tons

Major Applications:
Automotive and Construction

Major Producers
India and Russia



Jute Fiber

Plant: *Corchorus olitorius*

Class: Bast



Global Production (2023)
3,694 thousand tons

Major Applications:
Sacks and Carpet Backing

Major Producers
Bangladesh and India



Abacá Fiber

Plant: *Musa textilis*
Class: Leaf Fiber



Global Production (2023)
108 Thousand Tons

Major Applications:
Speciality Paper and Ropes

Major Producers
Philippines, and Ecuador



Sisal Fiber

Plant: *Agave sisalana*

Class: Leaf Fiber



Global Production (2023)
237 Thousand Tons

Major Applications:
Ropes, Sacks, and Gypsum

Major Producers
Bazil, Tanzania and Kenya



Banana Fiber

Plant: *Musa acuminata*
Class: Leaf



Global Production (2023)
3,000 tons

Major Applications:
Crafts and Textiles

Major Producers
India and Pakistan



Pineapple Fiber

Plant: *Ananas comosus*

Class: Leaf



Global Production (2023)
750 tons

Major Applications:
Vegan Leather and Textiles

Major Producers
Vietnam and Philippines



Curauá Fiber

Plant: *Ananas erectifolius*
Class: Leaf



Global Production (2020)

24,825 thousand tons

Major Applications:
Crafts and Composites

Major Producers
Amazon Biome



Date Palm Coir

Plant: *Phoenix dactylifera*

Class: Leaf



Date Palm Fiber

Plant: *Phoenix dactylifera*
Class: Leaf





Neptune Balls

Plant: *Posidonia oceanica*

Class: Leaf





Cotton Fiber

Plant: *Gossypium hirsutum*
Class: Seed



Global Production (2023)
24,826 thousand tons

Major Applications:
Textiles

Major Producers
China, India and USA



Kapok Fiber

Plant: *Ceiba pentandra*

Class: Seed Fiber



Global Production (2023)
78 Thousand Tons

Major Applications:
Fiberfill

Major Producers
Indonesia and Thailand



Colored Cotton

Plant: *Gossypium hirsutum*

Class: Seed



Colors:
Tan to Green, and Brown

Major Producers
South America



Milkweed Fiber

Plant: *Calotropis procera*
Class: Seed





Coir Fiber

Plant: *Cocos nucifera*
Class: Fruit Fiber



Global Production (2023)
1,085 Thousand Tons

Major Applications:
Mats, Brushes, Ropes

Major Producers
India, Viet Nam, and Sri Lanka



Tururi Fiber

Plant: *Manicaria saccifera*
Class: Fruit Fiber



Major Applications:
Traditional Crafts

Major Producers
Brazil (Amazon)



Photo by:
Joyce Nanjobe
Kawooya

Bark Cloth

Plant: *Ficus natalensis*

Class: Bark



Major Applications:
Ceremonial Wear, and Crafts

Major Producers
Uganda and Vietnam



Wool Fiber

Animal: Sheep

Class: *Ovis aries*



Global Production (2023)
1,746 thousand tons

Major Applications:
Textiles and Flooring

Major Producers
China, Australia, and New Zealand



Arabian Camel

Animal: *Camelus dromedarius*

Class: Camelids



Global Population (2023)
40 Million

Major Applications:
Luxury Textiles and Bedding

Major Producers
North and East Africa



Silk Fiber

Insect: *Bombyx mori*

Class: Bombycidae



Global Production (2023)
91 Thousand Tons

Major Applications:
Luxury Textiles

Major Producers
China and India