Mother Nature Knows Bast

Replacing plastic fibre in the global nonwovens industry

Engineered by Nature™

BAST FIBRE TECH

Who we are

Bast Fibre Technologies (BFT) is a cleantech fibre engineering firm manufacturing specialty natural fibres for applications throughout the nonwoven industry.

Using advanced fibre processing technology, BFT transforms raw bast fibres from hemp and flax plants to meet the exacting standards required by nonwoven customers.

With the inevitable transition away from synthetics, bast fibres will become vitally important for the production of truly sustainable nonwovens ranging from cleaning wipes to personal care products.

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Where we play

As a natural fibre partner to the $50 billion plus global nonwoven industry. Fibre sales alone represent $24 billion.

Approximately 80% of the total nonwoven volume is synthetic but this industry is being disrupted by the global introduction of plastics legislation, carbon emission targets and strong consumer preferences for plastic-free and carbon-friendly products.

Consumer goods companies are setting plastic-free supply chain objectives for nonwoven products within 5 years. BFT is on track to be one of the leading plastic-free fibre solutions for the global nonwoven industry.

Demand is not our issue

The Future of Nonwovens

Moving away from plastics

The EC has issued Directive 2019/904 to limit the environmental impact of single-use plastics. The directive defines single-use plastics as:

- A material consisting of a polymer that qualifies as “not natural” and “chemically modified”
- Latest draft guidance indicate that Viscose will meet the definition of a plastic

The latest draft guidance specifically references the following nonwoven products:

- Sanitary towels (pads) and tampons
- Pre-wetted personal care and domestic wipes (disinfecting wipes, facial and cosmetic wipes, baby wipes)

Products made from BFT fibres will not fall under the scope of Directive 2019/904

The Future of Nonwovens

Moving away from plastic

Leading consumer goods companies have signed on to the Plastic Pollution Treaty in an effort to lobby UN member states to develop a global treaty on plastic pollution.

✓ The Future of Nonwovens

Moving away from plastic

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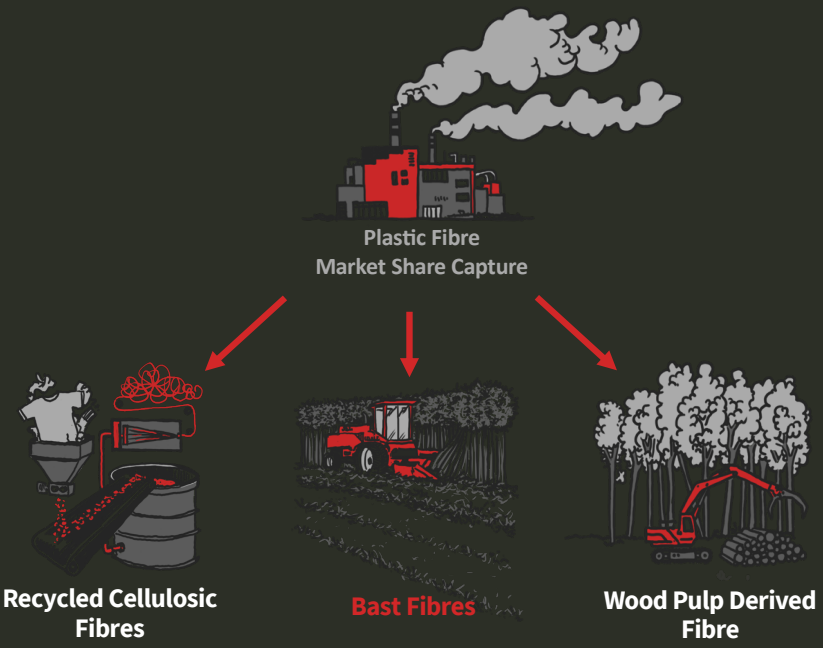
The nonwoven CGCs see the writing on the wall and are currently searching for ways to reduce their dependency on plastic-derived fibres and resins.

The Plastic-Free Opportunity

Plastic Market Capture (Annual)	Est. Fibre Tonnes	Annual Sales
Current Plastic Market*	14M	$ 38 B
10% switch to natural fibre	1.4M	$ 4 - 5 B
25% switch to natural fibre	3.5M	$ 10 - 15 B
*Using an estimated price of $2,750 per tonne		



✓ The Plastic Fibre Alternatives

Why Choose Bast

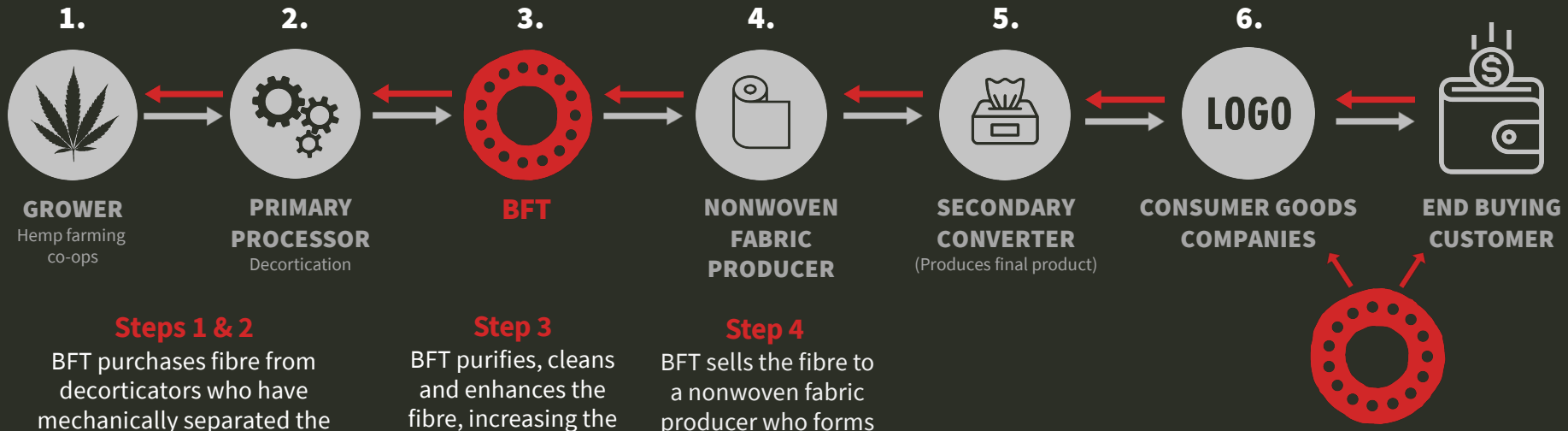
- High biomass crops
- Powerful carbon sequesterers that require minimal water or chemical inputs
- An annual crop that can be grown in almost all climatic zones as an effective rotation crop
  - Important tool in the regenerative agriculture movement
  - Proven rotation crop for both wheat and soybean
- The fibre is a by-product of both the food and hurd industries
- Bast fibres (responsible for transporting water within the plant) offer natural performance advantages for nonwoven fabrics
  - Increased moisture wicking and absorbency
  - Improved ability to retain moisture

Hemp, flax, kenaf and jute

✓ Where We Operate

The BFT Supply Chain Approach

BFT operates and exerts pressure throughout all steps of the nonwoven supply chain.



Steps 1 & 2
BFT purchases fibre from decorticators who have mechanically separated the fibre from the rest of the hemp stalk.

Step 3
BFT purifies, cleans and enhances the fibre, increasing the fibre performance attributes.

Step 4
BFT sells the fibre to a nonwoven fabric producer who forms the wipe fabric.

BFT is partnering with CGCs to drive BFT fibre adoption

Raw Material Supply
Quality starts in the field

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- BFT takes active role in supply chain oversight to ensure crop quality meets the needs of the nonwoven marketplace
- Plant varietal, agronomics, harvesting, retting and primary processing all play critical roles in raw material quality
- BFT sources fibres directly from growers and primary processors
  - Mitigation of weather risk via multiple geographic sourcing regions
  - Agreements stipulate inventory of safety stock to ensure continuity of supply
- Working with USA hemp farmers and processors to supply raw material for “Made in USA” fibres and end products

✓ Manufacturing Technology

Our Secret Sauce

Natural fibres, including hemp and flax, have historically been impossible to use for nonwoven applications.

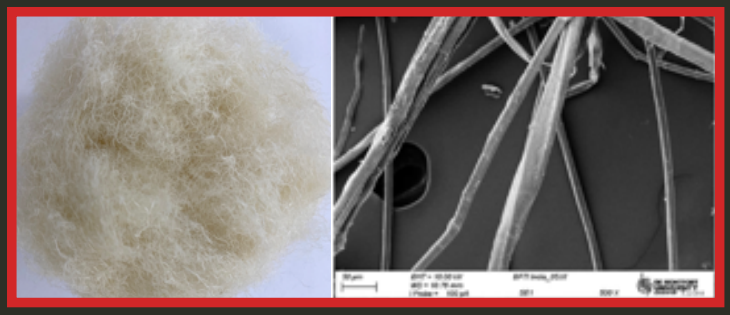
- Fibres are dirty, inconsistent and hard to process

BFT's proprietary suite of technology addresses these problems to provide clean, individualized and uniform fibres that are compatible with all commercial production technologies.

BFT's performance enhancements improve cohesion, sanitizer compatibility, softness, moisture management among others

BFT's core technology package has identified and mapped nearly 100 process control parameters.

Typical Degummed Hemp Fibre



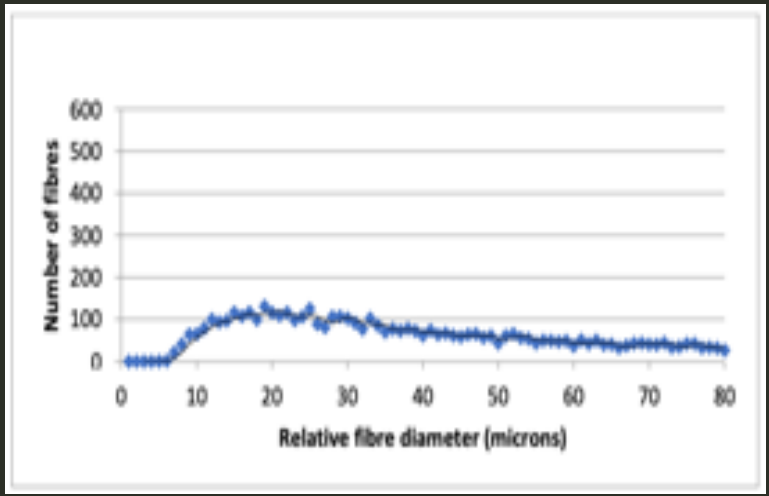
BFT Processed Hemp Fibre

✓ Manufacturing Technology

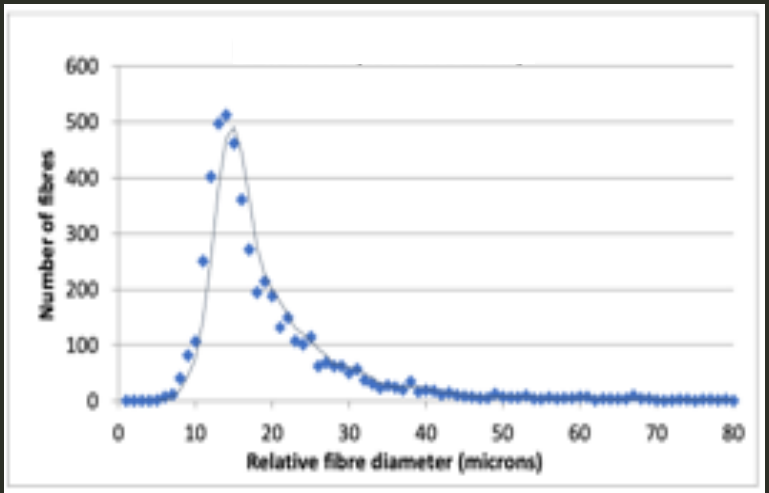
Our Secret Sauce

BAST FIBRE TECH

Raw Hemp Fibre



BFT Processed Fibre



85% of BFT's fibres are within the target diameter range for required for commercial success.

✓ Bast Derived Fibres

Biomimicry: Beyond Sustainability

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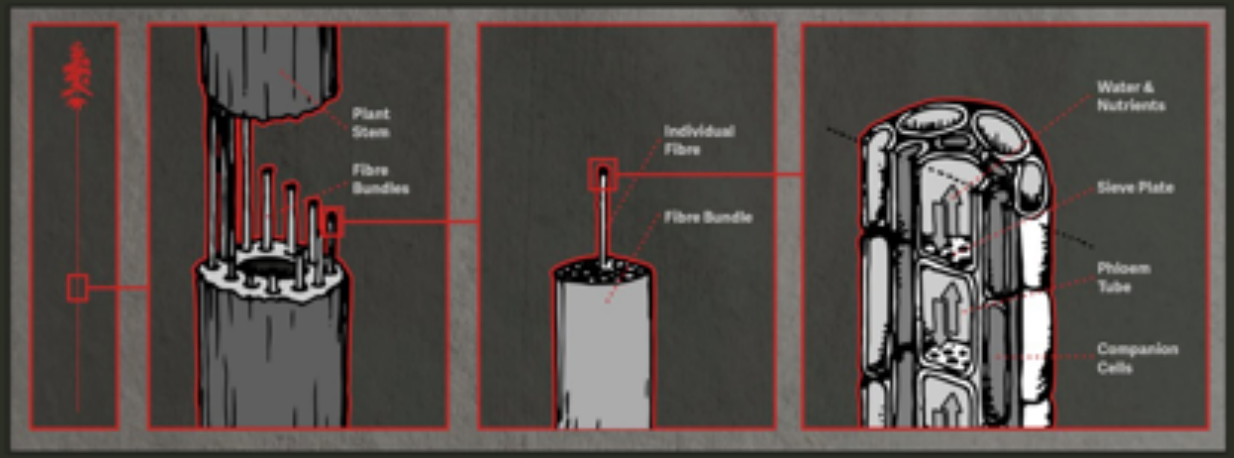
- Bast fibres transport moisture to all parts of the bast plant
  - This translates into superior wicking and absorbency characteristics in end products
- Turgor pressure within the bast fibres cell walls hold on to moisture and resist the forces of gravity
  - Wet wipes containing BFT's fibres exhibit a phenomenal ability to hold moisture

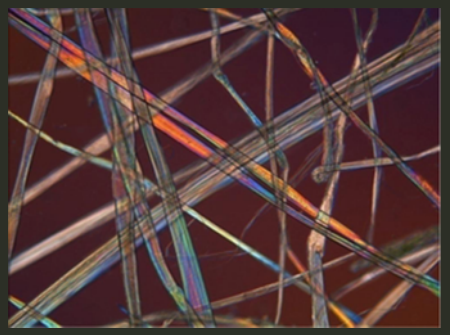


✓ Comprehensive Barriers to Entry

Cohesion Enhanced Bast Fibres

- Traditional bast fibres are substantially straight, leading to several processing issues with carded hydroentangling processes:
  - Due to lack of cohesion, 100% bast fibre fabrics are not possible
  - Lower fabric strength
  - Difficulty carding and preparing fibre for entangling

- BFT's Cohesion Enhancement:
  - Imparts a uniform and consistent crimp of 4 crimps/cm
    - Allows flexibility to change crimp frequency for end-product requirements
  - Does not modify the cellulose structure and maintains "all natural" designation
  - Improves fibre-to-fibre cohesion and resulting fabric strength
  - Improves processing efficiency



Untreated Bast Fibre

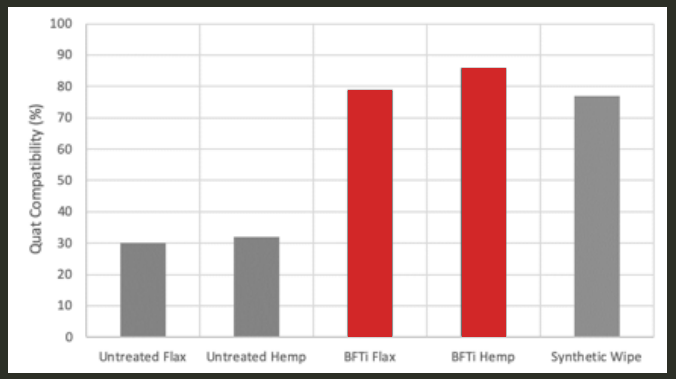
BFT's Cohesion Enhanced Fibre

✓ Comprehensive Barriers to Entry

Quaternary Stable Fibre

- Quaternary Ammonium Compounds (QUATs) are an approved disinfectant known to be effective against coronaviruses
  - Used for disinfecting surfaces with wet wipes, spray and wipe and soak and wipe applications
- Natural fibres, MMCFs and microfibre based cloths bind QUAT thereby neutralizing its disinfecting properties and rendering surfaces unsanitized
  - Results in off-label usage of the QUAT
  - Estimated that up to 75% of environmental services executives are unaware of the issue of QUAT binding
- BFT has developed and patented an all natural QUAT stable fibre with claims verified by a third-party laboratory

Quat Compatibility Comparison



✓ Comprehensive Barriers to Entry

BFT's IP Suite

Patent Status	Field of Use	Category
Granted	Nonwoven Fabric Comprised of Bast Fibres 7mm or Longer	Product
Granted	Nonwoven Fabric Comprised of Bast Fibres 7mm or Shorter	Product
Granted	Nonwoven Fabric Comprised of Bast Fibres 6mm or Shorter and Products Therefrom	Product
Granted	Structured, Dispersible Nonwoven Web Comprised of Hydroentangled Individualized Bast Fibers	Product
Application	Nonwoven Fabric Comprised of Cohesion Enhanced Bast Fibres	Product
Application	Chemically Modified Bast Fibres - Quat Compatibility & Astringent Functionality	Product / Process
Application	Nonwoven or Textile Fabric Comprised of Cohesion Enhanced Bast Fibre and Related Method of Manufacture	Product / Equipment

*** Licensed from Georgia Pacific LLC**

✓ Commercial Trials

Andritz and Trützshler, November 2020

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TRÜTZSCHLER

ANDRITZ

✓ No Environmental Trade-Off

Evolution of the Circular Economy

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Recycling is not an option for many single-use plastics. This, combined with inadequacies in the recycling process, means that over 90% of plastics are not recycled.

We need to utilize natural alternatives to replace plastic products.

No Environmental Trade-Offs

Market Critical Certifications in Place

BFT has obtained all third-party certifications required for commercialization including:

- Reach/Prop 65, Oeko-Tex, Compostable, Flustix and Higg Index

Several market differentiation certifications have been awarded:

- USDA BioPreferred, Canopy Planet, Home Compostability, Environmentally Preferred Product

BFT's fibres are unique in the marketplace and automatically qualify as:

- Tree Free, Food Safe, Vegan Friendly, EPA Inert List (medical, packaging)

Meet our Team

Operational and Management Strength

BAST FIBRE TECH

Government Relations

Guy Prevost
Global Head,
Government Relations

Research & Development

Jason Finnis
Chief Technology Officer

Dr. Amin Pour
Chemical Engineer

Jim Posa
President

Noel Hall
CEO

Business Development

Pieter Meijer
European GM

Alan Wright
Global Head,
Business Development

Corporate Services

John Parkinson
Chief Financial Officer

✓ The Race to Replace Plastic

How we will win

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- ✓ Robust supply chain
- ✓ Manufacturing technology that delivers exceptional performance with competitive economics
- ✓ Have a ready-made solution to meet 2025 plastic-free demand
- ✓ No environmental trade-offs (i.e., trading plastic pollution for deforestation)
- ✓ Extensive barriers to entry

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