



Sustainability & Innovation in Textiles

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**"I was inspired by KenDor's
founders to champion
tomorrow's fabrics today ."**

- Paul King

KenDor's President: PAUL KING

As KenDor's President, Paul does much more than run day-to-day operations. Invigorated by customer needs, he simultaneously heads up the global sourcing and sales teams with the goal of finding solutions.

Paul was the driving force behind expanding KenDor's knit fabric offering. The move to knits has been instrumental in the surge of Vancouver's active apparel market in the last two decades. Long before it was in fashion, Paul was an adamant and inspired champion of eco friendly textile sourcing. Under his leadership, KenDor's sustainable offering has grown to represent more than 70% of its global sales. An irreplaceable option for small to large sized brands that want to offer more responsible products but don't have the resources to source and secure accreditation for their eco textile supply chain.



INTRODUCTION

Sustainability as part of your brand promise is no longer optional.

Consumers have grown increasingly informed and concerned about the legacy impacts of their purchasing decisions and are endeavoring to make their expectations known at the cash register. As a result, brands are under mounting pressure to implement conscientious and authentic practices that reduce their global environmental footprint while ensuring fair and equitable working conditions of workers throughout the supply chain.

To be able to effectively achieve success on these mandates, brands need to set reach goals with achievable targets and then make decisions throughout the design and manufacturing process that support these goals. Trying to back-peddle to catch the eco wave after products have been designed is both inefficient and incredibly hard to do.





continued...

Thankfully, what was once a scarce supply of expensive and frankly unappealing 'eco' options, has grown into a robust and exciting myriad of possibilities, making the goal of creating a circular economy incrementally more realistic. While responsible options remain more expensive than conventional varieties, widespread adoption has significantly narrowed the gap and, if planned for at the design stage, premium costs can be integrated into pricing and marketing decisions.

But, diligence is required. Allocating sufficient resources to thoroughly researching the most practical sustainable options for your brand, ensuring to accurately reflect the intellectual property of supply chain partners, and authentically communicating your efforts to your consumer require effort and commitment. Whether innocent or intentional, 'greenwashing' has become prevalent, but missteps are more and more likely to be called out by the increasingly savvy consumer.

In support of your authentic pursuit of progress, we have created this guide to share some of KenDor's insights into:

EXISTING SUSTAINABLE OPTIONS

EXCITING INNOVATIONS

CERTIFICATIONS



EXISTING SUSTAINABLE OPTIONS



RECYCLED

- Recycled Cotton
- Recycled Wool
- Recycled Polyester
- Recycled Nylon
- Giotex™
- REFIBRA™ Lyocell
- Pre & post consumer garment waste regeneration
- Other Recycled Materials

Decades of commitment at multiple stages of the input process have made the following sustainable options widely accessible to brands of all sizes.



RENEWABLE

- TENCEL™ Lyocell
- TENCEL™ Modal
- LENZING™ ECOVERO™ Viscose
- Sanyou Rayon from Bamboo
- VEOCEL™ Lyocell & Viscose
- Lyocell
- Modal
- PLA (Polylactic Acid)

While many of these options are well established, others are just reaching the horizon, having tipped from experimental to scalable and picking up meaningful momentum, promising an increase in the breadth & availability of responsible options.



ORGANIC

- Organic Hemp
- Organic Linen
- Organic Cotton
- Organic Wool



NATURAL

- Linen
- Hemp
- Ramie
- Cotton
- Wool

EXCITING INNOVATIONS

Textile innovators are blazing the trail for continuous progress in the global movement towards an increasingly circular economy. Some are more scalable than others, some may ultimately prove unviable, but to succeed experimentation is fundamental. The groundswell of exciting ideas is the rainbow.

History has proven that some innovations have inadvertently created new, unforeseen issues making it important to collectively value progress over perfection. Innovation is essential (and so geeky cool).

Our Innovation Guide that follows is grouped by commonality with links to additional reading included – many belong in more than one category so have been grouped in their most logical theme. This guide in no way specifically promotes any of the innovations, rather it serves to offer a glimpse into the vast efforts being pursued to significantly improve the textile & garment industry footprint.

LOW HANGING FRUIT

Leveraging the honest promise of a circular economy, the **Low Hanging Fruit** category uses fruit industry waste products (pulp, pomace, peels, leaves & other repurposed food waste) to create new textile offerings.

Grapes, apples, oranges, bananas, mangoes, pineapples and even cacti find new, incremental purpose while significantly reducing and/or eliminating the need for additional environmental resources to produce outputs.

Bonus: Wine without waste.

LEARNING LINKS & BRANDS

- [Apple Leather](#)
- [Bananatex®](#)
- [Desserto®](#)
- [Fruitleather](#)
- [FRUTFIBER™](#)
- [Orange Fiber](#)
- [Piñatex®](#)
- [VEGEA](#)





FIELDS OF GLORY

LEARNING LINKS & BRANDS

- Agraloo BioFibre™
- Chip[s] Board®
- Malai
- MIRUM®
- Qmilk
- S.Café®
- Sertex (Bio Amber, Dupont, Flokser)
- Sorona®

Born in agricultural fields, farms and ranches, the **Fields of Glory** offer a lower carbon footprint, renewal & scalable source inputs and, like Low Hanging Fruit, make good of the unusable waste products generated by the international agricultural sector.

Potato, corn, coffee, milk protein, coconut, beets, hemp, flax & rubber all fuel the promising Fields of Glory category.

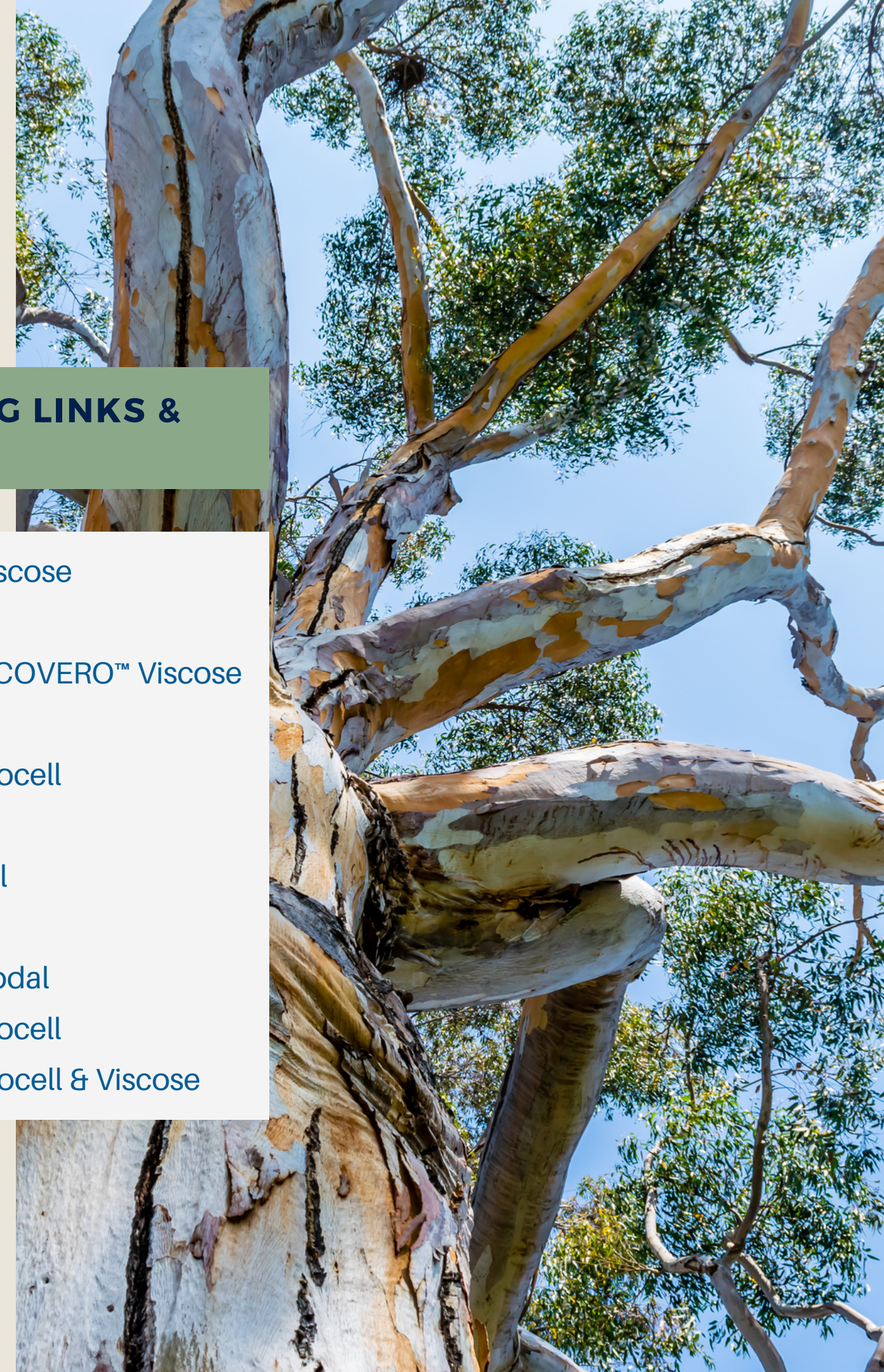
IN THE TREES

Arguably the most well-established category, it has been well substantiated that the most widely accessible source for responsible textiles is **In The Trees**. Owing a significant portion of the global notoriety about renewable forestry practices for use in textiles to the controlled manufacturing & marketing efforts of [Lenzing](#), the cellulosic fiber offerings boast high tenacity, unparalleled next-to-skin softness, biodegradability, and eco-responsible production.

Because of the prevalence of this category, increased scrutiny applies to all players to ensure they are legitimately minimizing the environmental impact of production, endeavoring to not use old growth forests, efforting to recover & reuse solvents, grow without the use of chemical fertilizers or pesticides, and scarce use of water resources.

LEARNING LINKS & BRANDS

- [EcoCosy® Viscose](#)
- [Flocus™](#)
- [LENZING™ ECOVERO™ Viscose](#)
- [Livaeco](#)
- [TENCEL™ Lyocell](#)
- [PLNTFIBER™](#)
- [Sateri Lyocell](#)
- [Spinnova](#)
- [TENCEL™ Modal](#)
- [TENCEL™ Lyocell](#)
- [VEOCEL™ Lyocell & Viscose](#)





R&R

Not your weekend Rest & Relaxation but just as invigorating, the **R&R** category champions the Re-used & Recycled.

The most significant and meaningful overarching R&R contribution to the circular economy is the priority and effort put into diverting pre & post consumer waste from landfills in tandem with negating the need for virgin petroleum-based fabric production.

The exciting momentum currently backing post-consumer garment waste regeneration will likely ensure that garment recycling becomes a very viable source of new fabrics in the coming years.

LEARNING LINKS & BRANDS

- Circulose®
- CLARUS™
- Coronet BioVeg
- ECO CIRCLE™
- ECONYL®
- Greenplus®
- Giotex™
- Infinna Fiber
- LIVA REVIVA
- LYCRA® EcoMade
- NuCycl™
- Q-NOVA®
- R-TWO™
- REFIBRA™ Lyocell
- RePet
- Repreve®
- ReVisco™
- ROICA™
- Siptex
- Texloop™ RCOT

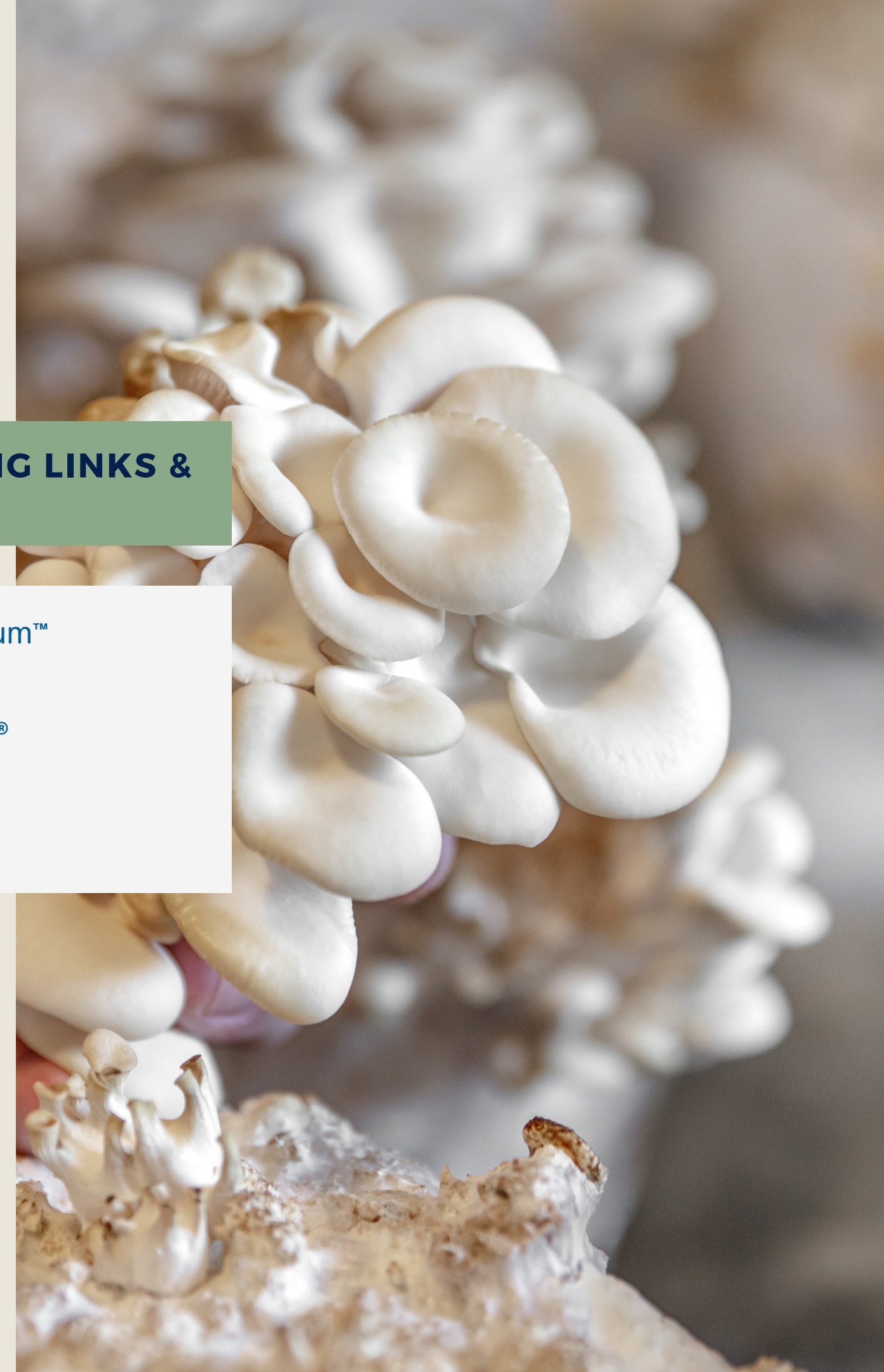
FUN WITH FUNGI

Showing tremendous promise for scalability and having garnered notable media attention, the textiles industry, particularly the soft accessories market, has learned to have **Fun With Fungi** as an eco alternative to both leather and PVC based vegan leather.

Boasting rapid growth cycles without the need for chemical additives, mycelium fabrics continue to absorb increasing market share in the eco leather space.

LEARNING LINKS & BRANDS

- [AirMycelium™](#)
- [MuSkin](#)
- [MycoTEX®](#)
- [Mylo™](#)
- [Reishi™](#)





LEARNING LINKS & BRANDS

ANIMAL KINGDOM

The global consumer expectation for the humane treatment of animals has been rapidly mounting, creating significant pressure points for manufacturers using inputs from the **Animal Kingdom**. Wool from sheep, down from fowl, leather from animal hide, and silk from spiders & silkworms is now heavily scrutinized, forcing innovation to either radically improve harvesting conditions or eliminate the need for the animal-based options altogether.

The new alternatives offer dramatic increases in tensile strength and flexibility, notable reductions in performance category product weights (without sacrificing function), tremendous warmth ratings, viable alternatives to conventional animal sourced options and the promise of a reduction in the generation of methane (greenhouse gas).

- b-silk™
- BioSteel™
- Flwrdown
- Kind Leather®
- NATIVA™
- Peace Silk®
- Spider Silk
- THERMOLITE®
- EcoMade T-DOWN
- QMONOS™
- Werewool
- Woocoa
- Zoa™

AQUA-TEX

The **Aqua-Tex** innovators channel the vital, naturally regenerative resources of both freshwater & saltwater eco-structures to create sustainable, non-disruptive textile solutions.

With no need for incremental fresh water sources for growth, the **Aqua-Tex** boast a very small eco-footprint.

LEARNING LINKS & BRANDS

- C-FIBER™
- AirCarbon
- SeaCell™
- Samatoa





LEARNING LINKS & BRANDS

- H2O Line
- HeiQ
- Nullarbor fiber
- Brewed Protein™
- Volar Bio

BIO/TECH

Intriguing laboratory-based technologies propose science driven proprietary processes & innovation by way of engineering rapid growing tree-free fibers & fabrics, using protein fermentation to simulate commonly used animal fibers and implementing eco biotech additives that significantly boost fabric performance, longevity, and sustainability.

The promise of cost-effective fabrics with extremely limited environmental burden ensures that the **Bio/Tech** category is here to stay.

CERTIFICATIONS

A list of commonly sought and implemented certification options follow.

It is important that brands do the work to thoroughly understand the scope and benefits of each before including them in their sustainability roadmap.

These certifications and corresponding registered marks:

- Require application & approval prior to any use
- Include a strict set of eligibility criteria
- Reflect legally protected intellectual property. Unauthorized use of marks whether express or implied can and has resulted in legal action.

OEKO-TEX®	LENZING™	TEXTILE EXCHANGE	BLUESIGN®
<p>OEKO-TEX® is a worldwide consistent, independent testing & certification system that tests for harmful substances used during all stages of production.</p>	<p>Cellulose fibers derived from sustainable wood sources that are harvested and certified according to Lenzing’s strict guidelines.</p>	<p>Textile Exchange is positively impacting climate through accelerating the use of preferred fibers across the global textile industry.</p>	<p>BLUESIGN traces each textile’s path along the manufacturing process, making improvements at every stage from factory floor to finished product.</p>
<ul style="list-style-type: none"> • ·MADE IN GREEN by OEKO-TEX® • STANDARD 100 by OEKO-TEX® • ·STeP by OEKO-TEX® • ·LEATHER STANDARD by OEKO-TEX® • DETOX TO ZERO by OEKO-TEX® • ECO PASSPORT by OEKO-TEX® 	<ul style="list-style-type: none"> • TENCEL™ Lyocell • TENCEL™ Modal • TENCEL™ Modal X Micro • REFIBRA™ Lyocell • LENZING™ ECOVERO™ Viscose • VEOCEL™ Lyocell & Viscose 	<ul style="list-style-type: none"> • Organic Content Standard (OCS) • Recycled Claim Standard (RCS) • Global Recycled Standard (GRS) • Responsible Down Standard (RDS) • Responsible Wool Standard (RWS) 	<ul style="list-style-type: none"> • bluesign® PRODUCT
<p>oeko-tex.com</p>	<p>lenzing.com</p>	<p>textileexchange.org</p>	<p>bluesign.com</p>
<p>Certified by: Independent Agencies</p>	<p>Certified by: Lenzing Group</p>	<p>Certified by: Independent Agencies</p>	<p>Certified by: SGS</p>



USEFUL LINKS

The links below are fantastic sources of ongoing information & updates about sustainability, innovation and certification:

- [Canopy \(Hot Button Ranking\)](#)
- [Ecotextile News](#)
- [Sourcing Journal](#)
- [Higg Index](#)
- [BOF \(Business of Fashion\)](#)



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