Trend in Packing Materials leads to Biofabricated Shippers

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From Fungus to Foam Substitute

Keeping up with innovations in packing materials can help shippers stay abreast of the trends and provide a heads-up for purchasing agents at 3rd Party Logistics (3PL) firms.

One important TLD trend is the increasing need to minimize non-biodegradable waste in packaging. Biofabrication is now being used to produce low environmental impact shipping materials with cost on-par with Styrofoam and EPE-polyethylene foam parts. Shipping materials can now be grown from the root structure of tree fungus mixed with waste vegetation and Stover.

Labor Force Takeaway

Biofabrication could be an important new growth industry for New Jersey.

One product of a NJ based biofabricated material could be mushroom-based packaging materials. If so, NJ's TLD sector could play a role in promoting use of such materials thereby spurring growth in other sectors of NJ's economy.

Randee Jennings; **jennings@njit.edu**; Technology Advisory Network Director for TLD

Compostable and Eco-Friendly, Biofabricated Packaging Comes of Age

In general, with better packaging, transporters need to be less concerned about damaging the contents of a package. The transition of packaging materials has evolved from foam peanuts, and the annoyance of those static-y little objects for consumers, to newer products like **bubble wrap**. The ones with larger bubbles **became toys** – popping with a bang. Then other products like **Sealed Air's pillows** were created for void filling. With this, durable shock barriers between inner and master boxes only need slim foam or small-bubble wrap. Breakaway corners migrated from synthetic foam to low-end recycled paper products.

A sustainability-branded customer may prefer that 3PLs use biofabricated and biodegradable packaging for their products.

Overall, trends have been toward cheaper, lighter, curb-side recyclable and/or biodegradable material. [A countervailing trend has appeared as well: the burden of **adding packaging** when selling to Big Box stores. Big Box Stores want "plug and play" pallets to minimize labor. To meet these demands, products must often make a stop at a third party logistics (3PLs) operation for repacking or overpack services.] At 3PLs there is an opportunity to inform customers about their packaging options.

Mushroom® Packaging

PROTECT YOUR PRODUCT AND THE EARTH: 100% HOME COMPOSTABLE

Whether you're looking to find a packaging solution for your own products, or you're a fabricator looking to offer your client a sustainable packaging solution, we will collaborate with you to develop a custom solution that meets your cost and performance targets. Contact us to see if Mushroom® Packaging is right for you.

MycoFoam™

FROM WETLAND RESTORATION TO INSULATION, WE HAVE YOU COVERED

Ecovative grows MycoFoam™ from agricultural fiber and mycelium, the roots of mushrooms. Our material is used in applications that otherwise would require, petroleum-based foams. 100% bio-based and completely home compostable, MycoFoam™ can actually improve a local ecosystem. From Packaging, to insulation, acoustic panels, and wetland restoration rafts, MycoFoam™ is grown to support you and the environment.

Metric	Standard	Testing Lab	MycoFoam™
Density (lbs/ft³)	ASTM C303	Ecovative	7.6
Compressive Strength (psi)	ASTM C165	Ecovative	18
Compressive Elastic Modulus (psi)	ASTM C165	Ecovative	165
Flexure Strength (psi)	ASTM C203	Ecovative	34
Compostability (days)	ASTM D6400	NSF International	30
Flame Spread	ASTM E84	QAI	20
Smoke Emission	ASTM E84	QAI	50
Thermal Conductivity, at 10°C (W/mK)	ASTM C518	Oak Ridge National Laboratory	0.039
Water Vapor Permeation (dry cup)	ASTM E96	Oak Ridge National Laboratory	30

Biofabrication is now being used to produce low environmental impact packing materials with cost on-par with Styrofoam and EPE-polyethylene foam parts. Shippers, corners and other product care packaging can be grown from the root structure of tree fungus mixed with waste vegetation.

Biofabrication is tailor-made for New Jersey's talent set. Packaging material is only one example of its potential.

This PSA shows an appreciation for the role NJ's TLD sector can play in propelling growth in other sectors.

Randee Jennings; **jennings@njit.edu**; Technology Advisory Network Director for TLD