

Did Columbia Create the World's Most Sustainable Waterproof Breathable Jacket?

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Photo: Courtesy of Columbia

If something looks, walks and quacks like a duck, it doesn't necessarily mean it's a duck.

Take the poly bag that global packaging and label manufacturer Avery Dennison recently created for Columbia Sportswear. Though it looks and acts like any clear poly bag used to ship new clothes to stores, it's made from sugar cane—not petroleum—and can easily be recycled.

"I could hand it to you today and you would never know the difference," said Helen Sahi, Avery Dennison's senior director of sustainability.

Columbia will introduce its new [OutDry Extreme Eco](#) jacket this spring and, as the company is calling it "the ultimate sustainable waterproof breathable solution for extreme conditions," needed an equally sustainable solution for shipping it to consumers. That's where Avery Dennison stepped in.

"Most poly bags are typically made from virgin petroleum polyethylene," Sahi explained, noting that the world wants to—nay, needs to—move away from that. "But you can't get rid of poly bags without potentially ruining the garments as they're being shipped."

The more sustainable option the manufacturer settled on was bio-based polyethylene. In this case, sugar cane, which was converted to an ethanol, then an ethylate, then a polyethylene, before being made into a resin that looks

just like a petroleum-based one and then into the film that became the bag.

“What’s interesting about this green polyethylene is we’re not using food out of the food system. We’re not using sugar cane grown in any areas other than where it’s supposed to be. We’re not deforesting in order plant sugar cane,” Sahi said.

“In looking at all the different ways to make this jacket more eco-friendly and sustainable, the bio-based poly bag turned out to be a really great solution to add to this story,” said Peter Haney, manager of stakeholder engagement and corporate responsibility at Columbia, adding, “This is a place in the industry that there’s been a lot of attention put on.”

While it took Avery Dennison’s think tank just six weeks to come up with the version of the bag that best suited Columbia, the outdoor apparel company had been working on the PFC-free fabric used in the Eco jacket since 2012.

“That’s when we really started to realize that textiles were the enemy in terms of getting to a higher performance product,” said Woody Blackford, vice president of design and innovation. “Textiles naturally are not waterproof. They actually like to absorb water. The reason for this is that water collects between fibers so the only way to make textiles waterproof, the outer layer of all waterproof breathable outerwear, is to load it with a lot of chemistry.”

Hence the presence of per- and polyfluorinated compounds (PFCs) in most durable water repellent (DWR) treatments. Instead of depending on PFCs to make something that’s not waterproof behave like it is, Columbia eliminated the textile layer completely, so that the exterior of the jacket is actually the performance membrane.

Meanwhile, the inside is 100 percent recycled polyester (made from 21 plastic bottles) that’s dye-free, which saves more than 13 gallons of water typically used for standard, dyed jackets—that’s why the OutDry Eco is white. Even the trims and hangtags are made from recycled content and printed with soy-based ink.



Photo: Courtesy of Columbia

“By making this jacket white it looks really different. It’s a statement piece, some kind of a badge around your commitment to the environment, that’s similar to a Prius in that people can recognize it and understand that it’s a little bit different,” explained Andy Nordhoff, Columbia’s PR manager.

Blackford agreed, noting that while the company is working on providing some colors in future, without using dyes or

pigments, the debut is an educational tool: “We want the consumer to think about. If you’re really into your impact on the environment and you’re thinking about it, do you really want to use 13 gallons of water to make it red?”