

Stay cool: Top fabrics to wear to survive the summer heat

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As the summer heat intensifies, with temperatures sometimes soaring to triple digits, the question of which fabrics are best for staying cool becomes particularly relevant. Sundaresan Jayaraman, a professor in Georgia Tech's School of Materials Science and Engineering, offers insights into the properties of various fabrics and why some are more effective than others in hot, humid conditions.

Jayaraman, a renowned expert in fibers, polymers, and textiles, recognizes linen as the best fabric for hot and humid conditions. He explains that linen's effectiveness lies in its superior moisture management properties. The fiber structure of linen allows it to absorb moisture quickly and then transport it away from the body. This is due to linen's high moisture regain capacity, which means it can absorb a significant amount of moisture without feeling damp.

"The moisture vapor transport rate for linen is much greater than that for cotton or [polyester](#)," he explained. Additionally, linen's bending rigidity prevents it from clinging to the body, allowing for better air circulation.

Cotton is another popular fabric for summer, known for its softness and breathability. However, Jayaraman points out that while cotton effectively absorbs moisture, it tends to retain it longer than linen, making it feel clammy in extreme heat. Cotton's moisture vapor transmission rate is lower than linen's, meaning it doesn't dry as quickly.

The structure of cotton [fibers](#), which are ribbon-like and can trap more water, also affects cotton's performance. While it's more prone to sticking to the body due to its lower bending rigidity, cotton is generally comfortable for less [humid conditions](#) or for shorter durations in the

heat.

While polyester may not be the first fabric that comes to mind for summer, its performance can be significantly enhanced with chemical treatments. Dri-FIT technology, for instance, improves polyester's moisture-wicking properties, making it a popular choice for athletic wear.

"Regular polyester is terrible when it comes to [moisture](#) absorption," admitted Jayaraman. "But Dri-FIT polyester doesn't feel clammy and is very comfortable for being physically active in the summer months."

While functionality is crucial, aesthetics also play a role in [fabric](#) choice for the summer. Linen, despite its excellent cooling properties, is prone to wrinkling and may not drape as elegantly as cotton or treated polyester. Jayaraman notes that linen's natural stiffness, which contributes to its cooling benefits, also leads to its tendency to wrinkle.

He says, "For a crisp appearance, linen garments often require ironing before wear." For those prioritizing appearance, [cotton](#) offers a softer drape and a smoother look, albeit with slightly less cooling efficiency.

Provided by Georgia Institute of Technology

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