The same fabric from separate sources often handles the dyeing process differently. Image credit: Flickr user Fabio Coatti (CC BY 2.0)

By 3:00 am, it's already on Twitter. At 7:00 the phone is ringing, and the morning just got hectic. Your primary cotton source, a Vietnamese plantation, lost its storage facilities and much of its crop to a major mudslide. Nobody was hurt, but you've got to find a new supplier to have any hope of completing the orders already in your pipeline.

That's no problem. Saved in your files is a three-page list of cotton suppliers, from New Zealand to Spain. A quick look and you find a Turkish plantation that can ship bales down the Mediterranean and across the Atlantic, without a significant price difference. But it's too bad—you've been buying from the same company for years, and you already know that the Turkish cotton will require you to adjust your dyeing process.

It's not exactly a secret that color consistency can be affected by any change in the location in which a fiber is grown, made, or dyed.[1] And if garment manufacturers have more opportunities than ever in a global marketplace, they also have more competition—should you deliver a late or unsatisfactory order, there is always another manufacturer eager to step in and demonstrate their reliability. Every time you lose productivity because of color discrepancies, you risk losing business.

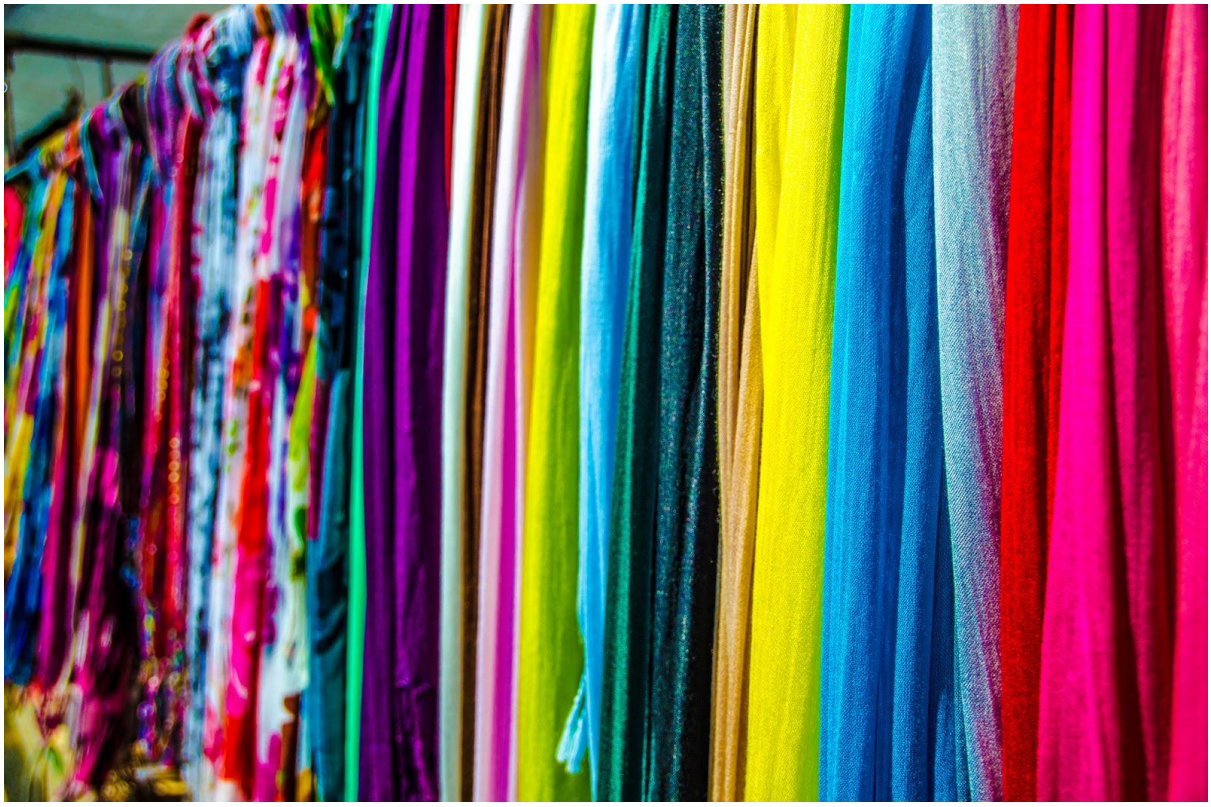
Spectrophotometers Increase Lab Dye Efficiency

But objective color measurement is achievable with spectrophotometric technology. Samples of incoming fabric shipments from suppliers can be scanned and their color assigned an objective numerical value using the Hunter l*a*b coordinate system.

Knowing the color of a fabric before it enters the lab for dyeing allows you to save time by reducing trial-and-error waste. Previous dips might yield information on how a given fabric—Moroccan wool, for example—reacts with specific dyes. Access to this data allows you to more accurately predict which dyes will render a color to match your standard. And by positively identifying that an incoming

fabric sample is exactly the same color as a previous sample, you can produce a standard-matching dye in very few trials.

By systematically reducing color disagreement with spectrophotometric analysis, the number of lab dye cycles can be reduced, opening up days or weeks in your lab dye schedule—and perhaps even allowing you to take on a larger volume of orders.



The dyeing process is made easier by having data from previous batches on hand. Image credit: Flickr user Kevin Jarrett (**CC BY 2.0**)

Objective Color Data Streamlines Processes and Reduces Waste

Even before ordering fabric from a certain producer, you can look up color information stored in HunterLab's EasyMatch QC quality control software and prepare your process based on this data. Once the fabric arrives, you will be ready to move it immediately to the next stage of production. Easy Match can also save all trial calculations from the lab dye stage, meaning that your textile engineers never need to do the same math twice—even if you've got multiple plants and multiple labs.

This type of streamlined communication is still surprisingly uncommon across the industry. Dr. Renzo Shamey, the Polymer and Color Chemistry Program Director at NC State, points out that, for many textile manufacturers, color communication "tends to be compartmentalized. Designers, production crew, Q/C and retailers often do not use the same language when discussing color and especially issues pertaining to production and approval of color."[2] By integrating EasyMatch QC software on a systemic level, you have a way to standardize your language and reduce miscommunication. Instead of receiving vague instructions from a retailer such as "warmer" or "more blue," you can request precise parameters via the Hunter l*a*b coordinate system and ensure that every member of your own production team is on the same page.

The objective nature of the the Hunter l*a*b coordinate system essentially removes the possibility of subjective human error in assessing the colors of incoming fabrics. While different employees might consider the same fabric to be different shades, the numerical value produced by a spectrophotometer measures on the same scale every time.

Spectrophotometers remove the element of human error in color assessment. Image credit: Flickr user Tony Hisgett (**CC BY 2.0**)

Spectrophotometers are essential to ensuring quality control of incoming fabrics from global producers. Manufacturers spend a lot of time and resources determining how to dye fabrics from different suppliers, and objective color assessment allows you to eliminate this inefficiency by preparing ahead of time for each job. HunterLab is a leading producer of spectrophotometers for the textile industry. To learn more about how our offerings can streamline your manufacturing processes, get in touch with us.

1. "ACT Color Measurement & Communication Voluntary Guidelines & Glossary", August 2011,**https://technicalts.com/blog/textile-apparel-color-matching-expert-round-up/**
2. "Textile & Apparel Color Matching – Expert Round Up", 2016, **https://technicalts.com/blog/textile-apparel-color-matching-expert-round-up/**