



“He’s not the Kool-Aid man!” screams Billy. “The Kool-Aid man is cherry red! He’s not cherry red!” “Sure I am, kid,” says the man in the Kool-Aid man suit. “Look at me! Whoa! Yeah! I’m the Kool-Aid man! I’m red as a cherry! What’s your name, Billy? C’mon, Billy, we’re just trying to have fun at the party.” Billy throws a piece of cake at the man who “isn’t the Kool-Aid man”. The other kids look on in a mixture of shock and wicked admiration. The cake peels from his felt costume slowly and falls to splatter on the ground. “This is the worst birthday ever!” screams Billy. “I wanted the *real* Kool-Aid man!”



You can tell he’s the real Kool-Aid man because he looks the same as the Kool-Aid. Image Credit: Flickr user K. Todd Storch ([CC BY 2.0](https://creativecommons.org/licenses/by/2.0/))

### Color Quality Control Is Essential to Keeping Powdered Drink Clients Happy

Customers who buy powdered drink products have a very specific idea of what color their drink is supposed to be. So, powdered drink brands have a vested interest in creating powders that consistently produce drinks of the same color. For powdered drink manufacturers, it’s extremely

important to make sure their powder matches the established standards of their parent company. In order to do that, the powder in its final mixture combination must pass through rigorous, objective color quality control procedures.

This quality control process is essential to the bottom line of powder manufacturers. Failures to meet color standards can mean the loss of equipment time, employee time, materials, and packaging and delivery costs. Repeated failures to meet the tolerance standards of the client company can result in sales lost to competitors.

Of course, the dry mixture itself is not the same color as the desired liquid. Based on laboratory color testing, brands have established standards for dry powders that consistently result in the proper liquid shade. The simple necessity of developing an objective standard for comparison begs the use of spectrophotometric instruments over the subjectivity of the human eye.



Would you trust this guy? Or would you rather trust a spectrophotometer? Image Credit: Flickr User Michael Lehet ([CC BY 2.0](https://creativecommons.org/licenses/by/2.0/))

### Spectrophotometers Compare Powder Color to Numerical Standards

A spectrophotometer measures the color of objects—solids, liquids, and under certain conditions, gases—by using reflected light. The instrument then converts this measurement into numerical

coordinates on the CIE L\*a\*b\* scale. This numerical precision allows for an exact match of color. While other color matching techniques exist, such as comparing powder to printed samples or premixed powder samples, these do not match the level of precision possible with a spectrophotometer.

Color perception is affected by texture. The angle of specular reflection from a printed sample, inked on a flat medium will vary from the angles reflected by a powder if they are illuminated with the same incident light. This can fool the human eye into thinking that they are different colors. Even when matching powder to premixed samples, the human eye can be fooled by differences in lighting and lacks the specificity and repeatability of machine measurements. Also, unable to convert colors into numerical coordinates, humans lack the specific language to quantify their observations. If a discrepancy were noted by a human observer, they would be unable to communicate the exact variance and would need to rely on guesswork to correct it.



Slight differences in powder color are sold as entirely different drink mixes. Image Credit: Flickr User Stefan H ([CC BY 2.0](#))

**Proper Tools and Technique are Necessary for Proper Measurement**

A tool is only as good as its user, and a hammer doesn't help when you need a wrench. When choosing a spectrophotometer, it's important to properly train your employees in how to use them properly. It's important to choose the machine that is ideally suited for your color measurement needs. The crystalline properties of dry powders require special measurement techniques, as well as using an instrument with the [correct geometry](#) for an appearance measurement.

With over 60 years developing spectrophotometers for industry applications, HunterLab has extensive experience in measuring the color of dry powders. We're happy to impart our experience to your employees through reading materials and training. Also, our knowledgeable employees can help you find which instrument would be best suited for your particular production process. To learn which machine will be best for your quality control procedure, [contact the experts](#) at HunterLab today.