

TR Series Testimonial



How important is colour management in food and drink?

New Food finds out how food producer anona ensures colour consistency in its products and why measuring and managing colour is so crucial for food and beverages.

CLOUR MANAGEMENT plays an essential role in the food industry. With the documentation of the colour conditions from the raw material to the end product, raw material and product-specific properties can be recorded. This allows differences in the respective production batches to be localised and, if needed, action to be taken.

In addition, raw materials and products undergo an ageing process (including oxidation) during storage depending on the prevailing environmental conditions (temperature, humidity, packaging type and packaging material). This can manifest in a variety of ways, such as a reduction in colour intensity (eg, carotenoids) and can also influence smell and taste.

An significant factor in reducing the progressive ageing process of products is compliance with the specified storage conditions.

Meeting expectations

Storage tests to determine the stability of raw materials and products are carried

out continuously so that a colour change in the product over time is documented in the respective product specifications. If the actual colour does not correspond to the stored product specifications, the product purchased by the end user will be checked internally and, if necessary, externally, and a statement will be made. If the specified storage conditions are correctly observed, the consumer will be reimbursed for their financial outlay. If a product is to be recalled entirely due to a lack of appearance, internal review mechanisms are initiated, such as reviewing the raw materials, packaging materials and the packing records.

Measuring colour

In our case, the measurement and documentation of a product's colour happens in the first stage of product development within the R&D department. The long-term colour stability of the product during storage is checked at the same time.

Conducting colour measurement during the development phase affords the benefit of advance information around colour

stability. Moreover, it is also possible to adapt the product in accordance with a customer's wishes, for example by exchanging raw materials or adjusting their quantity.

Following the production and packaging process, reference samples are handed over to the quality assurance and R&D departments, where they are again subjected to a long-term stability test, including recording the colour change over time. This is useful as it can be used for customer enquiries or complaints.

The right tools

Before using the Lovibond® TRA 500 and integrating colour management, it was not possible to accurately determine how the colour of our products would change over time. Evaluations were conducted but these were subject to error.

We chose the mobile device so that we could use the same equipment across different departments. This allows us to spot differences in colour from raw materials to packaging materials more quickly. Another important consideration for us was the operation of the colour



Measuring colour with the Lovibond® TRA 500

measuring device, which had to be simple and clear so that even inexperienced employees could quickly learn how to use it. By integrating the TRA 500 into day-to-day business, we were able to increase our quality standard and improve customer satisfaction.

The device enables us to precisely identify colour deficiencies in our products during the storage test.

Through preliminary analysis, any raw materials that cause an accelerated colour change in the product could be identified and substituted by other raw materials. As a result, the consistency of our products has greatly improved.

Trending colours

Due to consumers' increasing environmental awareness, the trend

is towards natural colours such as leaf green or sand. These give the impression that the product contains health-promoting substances both in terms of physical and mental wellbeing for oneself as well as planetary health.

This trend is being further driven by the move away from animal-based ingredients, with more natural colours reflecting plant origin – hence its use within the plant-based category.

Colours that reflect nature can have a positive impact on the consumer's state of mind too.

We foresee the use of natural colours gaining more momentum in the future, as consumers become hyperaware of their economic footprint. □



Thomas Papert
Thomas is the Product and Process Engineer within the Research and Development (R&D) department at Anona GmbH. He has a Master's degree in Science Biotechnology and represents the intersection between the R&D department and production. Thus, he is responsible for the smooth running of the production chain as well as the optimisation of the underlying process.



It needs more 'zing'

Defining the colour of a product accurately and consistently is of vital importance in any industry; Matthew Russell explains.



Matthew Russell
Product Manager, Tintometer

Direct visual assessment is subjective. Humans suffer from retinal fatigue, very poor colour memory and colour blindness (one in 12 men and one in 200 women). Background effects (eg, colour viewed over black looks different to over white) and lighting (eg, daylight vs. a dimly lit office) will hugely hinder accurate colour assessment.

Furthermore, colour communication entails imprecise verbal descriptions. Phrases such as 'it's too pinkish', 'lighter', 'darker', 'needs more zing', or 'it's off colour by five percent' are not uncommon.

Fortunately, the food industry has a long history of measuring the colour of products using instrumentation. Early in the 20th century, our founder, Joseph Lovibond, was providing colour measurement instruments, known as Tintometers, to the brewers of Southern England.

The early adoption of colorimeters and spectrophotometers provided precise, objective and absolute data.

The logic for implementing colour measurement is as valid today as it was over a century ago. A clear and precise description of colour standards and tolerances is critical when:

- Specifying a material when sourcing it
- Communicating colour within the wider supply chain
- Inspecting incoming materials
- Conducting continual production quality control
- Inspecting final/outgoing products

- Guaranteeing compliance with national and international standards.

For example, in the global edible oil and fat industry, the colour of transparent samples is most commonly expressed in terms of Lovibond® RYBN colour (red, yellow, blue and neutral) using Lovibond instruments. This ensures consistent and controlled communication across the supply chain.

Reliable and repeatable colour test results are of course key. In addition, speed of analysis can be vital for efficient process control. Simplicity of operation also helps to reduce errors and increase productivity. All these qualities can be achieved using 21st century colour measurement techniques and technology.



For further information, visit www.Lovibond.com