

VOICE OF THE EXPERT:

SOLVING TASTE CHALLENGES: DELIVERING AUTHENTIC FRUIT FLAVOR

Jason Mittelheuser, Senior Principal Scientist

Popping a plump strawberry into your mouth during a picnic. Crunching a freshly-picked, juicy apple on your way out the door. Sipping a pina colada by the pool on vacation. Tossing a handful of blueberries, raspberries and mango chunks into a blender to make a smoothie.

While the craving for fresh fruit remains strong, it can be challenging for product developers to recreate the same just-picked taste in certain applications. Fruit is perishable, often delicate, seasonally available and not as readily or economically utilized as other ingredients used to impart flavor. The good news is that true-to-character fruit flavor can be effectively encapsulated for a wide range of applications. You might even call it a bumper crop of opportunity.

As a Senior Principal Scientist that supports beverage innovation, Jason Mittelheuser knows firsthand the challenges of delivering fruit profiles, especially in a dry format. One of the things he enjoys most about his job is utilizing TrueTaste® flavor technology to help customers achieve the subtle flavor nuances of nature in products that might otherwise taste like a diluted or disappointing imitation.



Q. What is TrueTaste technology, and what are some of the benefits from production and consumption standpoints?



A. As its name suggests, TrueTaste delivers true liquid to dry flavor fidelity. The solution is based on a patented and patent-pending liquid-to-powder conversation technology that is as ready and easy to use as it is effective in delivering fresh fruit attributes.

The difference in this technology is gentle processing with low heat and pulsed electrostatic energy, which seals in volatiles and protects top notes from oxidation, resulting in experiences like a “fresh squeezed” taste.

The process-stable flavors evoke bright and floral cues without unwanted brown cooked notes. I often use the example of baking a strawberry pie: even though the pie contains juicy strawberries, the reactions that take place during the cooking process, including enzymatic browning, often cause the strawberries to lose those fresh notes.

TrueTaste keeps the fragile flavor component of liquid flavors, with the added benefit of quick dispersion. It also works well in applications with dry flavors, such as laminated dough, fillings, or beverages that are often subject to losing flavor. No matter the format, TrueTaste meets clean labeling standards, because it is formulated from source fruits.

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Q. Can you share a real-life formulation challenge and how TrueTaste helped solve it?

A. We were tasked with developing a profile for a functional beverage made in part with beef collagen, which typically evokes unsavory flavors like a barnyard taste and “off” aromatics. To overcome that challenge, we looked at several different kinds of fruit flavors for possible inclusion, such as tropical fruits, berries and citrus.

When I was screening through flavors, I knew I needed something that would have an aromatic lift. I settled on green compounds, which have desirable top notes that would offset the beef collagen.

I ultimately chose green apple because it's strong on the palate with a robust aromatic quality. When I applied the TrueTaste green apple flavor to the beef collagen beverage, I was pleasantly surprised with the bright fresh green character and the signature smell of green apples. The technology did a really great job of retaining those green compounds. When tasting the finished product, you'd never know it contains beef collagen!

“Consumers smell a product to know what they are about to taste and experience. That’s the biggest driver in mind—you need to win people over with aroma. ”



Solutions for a Wide Variety of Fruit Flavor Notes:

Light, fruity character – Banana, strawberry

Fresh juice, first break of the peel aromatic – citrus

Dark ripe character in dark berries

Unripe, green, astringent, fresh – green apple, green banana

Fresh true to fruit blueberry

Green, leafy, grassy – vegetable character

Ripe sulfury – mango, tropical

Ripe/aged note – all fruits



Q. What do you find most exciting about TrueTaste?

A. I enjoy finding new ways that TrueTaste can deliver fruit taste and aromatics to various functional applications. Because it retains volatiles, these encapsulated flavors work well in plant protein products, dairy protein products, energy drinks and pre-workout type products. The sheer spectrum of possible formulations allows me to push the limits with TrueTaste, and that's been rewarding. I'm looking forward to discovering even more possibilities. Through technologies like TrueTaste and close partnership with our customers, we can work to meet consumer' taste expectations.

Ready to yield great results with authentic fruit flavor?

Reach out to discuss or request a flavor sample.

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