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Fruit Powders: Even Better Than the Real Thing?

The popularity of fruit-flavored products has posed several challenges for research and development teams at food and beverage manufacturers. First, there are the core product attribute challenges when creating fruit flavor such as intensity, moisture and consistency.

Next, there are the logistical challenges of sourcing, storing and using the ingredients that will deliver a fruit flavor profile. And, last but definitely not least, product developers have to consider consumer perceptions of their ingredient choices when it comes to ingredient lists and the Nutrition Facts panel.

That's a lot to think about just to deliver a fruit-forward flavor profile or accent. In high-volume production, product developers will mainly choose among a fruit juice liquid ingredient, a spray-dried fruit powder or an artificial flavor. Bluegrass Ingredients developed this handy guide for product developers as they consider the different options for adding fruit flavor to a food or beverage product.

Product Attribute Considerations

Taste remains the most important influencer in purchasing decisions of food and beverage products. This may seem obvious, but it's not with the increasing popularity of functional

foods that sometimes prioritize the delivery of healthful ingredients over product flavor. In the short term, these products may generate buzz, but long-term sales success will only come if a product tastes good. When choosing a fruit-flavor ingredient, consider these key attributes.

Flavor: The one area you can't make sacrifices on. All three options (fruit juice, spray-dried fruit powder and artificial flavor) are going to provide a fruit-flavor profile, although artificial flavors may impart some off-notes perceptible by some consumers.

Flavor Intensity and Consistency: This is an area where spray-dried fruit powders have a significant advantage over fruit juices, which can be inconsistent and only available with one flavor intensity. Spray-dried fruit powders can be customized to deliver a specific sour, sweet or acidic flavor profile depending on the application.

Moisture Content: In beverage products, moisture content isn't generally a concern, and any of the ingredient options will work. However, what about bakery foods, where moisture content demands precision? In applications where flavor without moisture is needed, spray-dried fruit powders prove to be an exceptional solution.

Logistical Considerations

We were tempted to put logistical considerations ahead of product attribute considerations due to the state of the supply chain today, but flavor is and will always be king. Logistics comes a close second though, especially when you factor in sourcing ingredients to deliver a fruit flavor.

Availability: Fruit juice, spray-dried fruit powder and artificial fruit flavors are all readily accessible today, but the fruit juice supply is much more susceptible to natural disasters and weather events.

Shipping: When using fruit juice, a food manufacturer is paying a significant amount of money to ship water. That's not economically feasible. Spray-dried fruit powders are easier and less expensive to ship, making them an excellent choice for any application.

Storage: In addition to costing money to ship water, it also costs money to store water, especially with a liquid ingredient that most likely requires refrigeration. Spray-dried fruit powders do not require refrigeration and are available in multiple packaging configurations. They also have a longer shelf life.

Usage: For most manufacturers, scaling dry ingredients is significantly easier to automate than the scaling of wet ingredients, especially with shifting dilution rates based on product formulas.

Consumer Perception Considerations

This is where the case for artificial flavors falls apart, as consumers have clearly stated that they don't want artificial flavors, colors and preservatives in their products. But what about spray-dried fruit juice powders versus fruit juice? They both rank fairly equal, with each providing a clean label, and in the case of an ingredient like lemon juice, similar nutritional attributes.

The verdict on which type of ingredient product developers should use to deliver fruit flavor will vary on application, but as seen above, there is a strong case to be made for spray-dried fruit powders making sense from the viewpoints of product attributes, logistics and consumer perspective.



If you would like more information on how to formulate products with spray-dried fruit juice powders, [contact us](#) today to talk to one of our formulators or request a sample.

