



Amaz!n™ Plums

SUNSWEEET
INGREDIENTS

Formulating Next-Generation Sauces

Learn how to make tasty, better-for-you cooking and condiment sauces for health- and wellness-seeking consumers.

Today's consumers crave flavor adventure while also being mindful of nutrition. One of the easiest ways for culinary professionals to address consumer demand for variety is with sauces. Sauces not only add flavor, they can also enhance the moisture and texture of a variety of foods. Home cooks have learned these tricks, too.

Manufacturers of cooking and condiment sauces are responding through enticing innovations ranging from regional barbecue to globally inspired hot sauces. What sauce formulators need to be aware of is that while consumers want to explore ethnic cuisines and flavor fusions, they are also looking to make better-for-you dietary choices. This includes taking a more natural approach to eating and reducing the intake of ingredients associated with health implications such as diabetes, heart disease and obesity.

There's pressure on food companies to reformulate products or introduce new ones with ingredient statements and Nutrition Facts that appeal to today's label-reading consumers. While products positioned as clean label are changing the dynamics of categories such as beverages, bars and snack foods, there has not been much change in the cooking and condiment sauce category, where many products come loaded with sodium, sugar and artificial ingredients.

With many sauces, just one tablespoon delivers half of the recommended dietary sodium for an entire day. Sugar, in its many forms, is also found at concentrated levels in many sauces.

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-David Sprinkle, research director, Packaged Facts

addition to many foods has made some consumers cut back on consumption,” says David Sprinkle, research director, Packaged Facts, Rockville, Md. “As a result, sauces and condiments are increasingly marketed as organic and healthy, with new options such as low-sodium or low-sugar varieties supporting restrictive diets.”

Sunsweet Ingredients may assist with improving the healthfulness of all types of sauces. A number of prune plum ingredients have been shown to enhance existing natural flavors, allowing for lower salt and sugar levels in sauce formulation. In many cases, their rich color and sheen also eliminates the need for formulators to use caramel color or other artificial additives to enhance appearance.

The flavor of prune plum ingredients also complements the hot and spicy trend driving innovation in the sauce category. Prune plums have the ability to round out flavors, enhancing other herbs and spices in sauces so it’s not only heat that is tasted.

These characteristics complement a menu trend identified by Chicago-based Mintel, which reported that the descriptor “spicy,” as it relates to “hot,” climbed 8% between the third quarters of 2015 and 2016. What’s notable is the use of the word spicy rather than hot, as heat is not the focus. It’s the flavors combined with the heat that differentiate these menu items from similar products in the market.

This hot and spicy flavor trend is also what you find in the many variations of barbecue served around the world. In the U.S., barbecue in the Carolinas skews tangy and spicy with the generous use of vinegar along with cayenne, black pepper, crushed red pepper, hot sauce and yellow mustard. In contrast, St. Louis barbecue tends to be quite sweet with a bit of acid because its tomato base is blended with apple cider vinegar, onion, garlic and honey. Kansas City barbecue uses a similar base but adds more layers of flavor with smoke and molasses. Meanwhile, Texans favor spice and heat, with just a hint of sweetness. Here you will find sauces made with tomato and vinegar seasoned with an array of chiles, onions or garlic, and Worcestershire.

Around the world, barbecue becomes even more varied. In Latin America, it’s all about chiles and cilantro while in Asia, Korean and Japanese chefs combine soy sauce, sesame, ginger and sugar. The Middle East tends to rely more on fragrant spices than spicy heat, blending together cardamom, cinnamon, cloves, cumin and garlic.



Prune plum ingredients complement all of these flavor profiles. Depending on usage level, reduced sodium and sugar contents are possible. It may also be possible to remove thickeners and preservatives, as prune plum ingredients build viscosity and contribute antioxidants and organic acids that assist with shelf life.

Prune plum ingredients are a whole food, clean-label tool to assist in the formulation of next-generation sauces. Depending on the application, the ingredient and the usage level, Sunsweet Ingredients may enhance the flavors, viscosity, appearance and overall taste experience in cooking and condiment sauces.



Fresh Plum Concentrate

Made from the juice of fresh prune plums, this ingredient is very versatile for making sauces. Fresh plum concentrate blends easily with water, adding subtle sweetness and enhancing flavor with bright acidity. Alone, the plum-red liquid has the consistency of maple syrup and carries a pleasant, tart-cherry flavor that resembles pomegranate molasses. It can be used in tomato sauces and pizza sauces to replace sugar and enhance tomato flavor while driving down acidity. It helps smooth out the flavors of wine or tomatoes in braising sauces. In Southeast Asian sauces, such as sambal or satay, it adds subtle sweetness to balance the flavors of the spices.

Sorbitol: 14.42%

Fiber: 1.54% soluble; .23% insoluble

Titrateable acidity: 1.8 to 2.6%

Brix: 70 degrees

pH: 3.9



Dried Plum Puree

Made from a blend of dried plums and prune juice concentrate, this puree is high in sorbitol, a natural humectant. Alone, the dark purple paste has a tangy flavor similar to molasses or tamarind. It adds body, tart sweetness and depth to sauces, and is especially good in dark tangy sauces, such as hoisin, tamarind chutney and barbecue. Dried plum puree accentuates flavor, allowing for reductions in seasonings and salt. Because it is the texture of a paste, it can be used to add body to a sauce that is too thin.

Sorbitol: 14.7%

Fiber: 4.35% soluble; 1.15% insoluble

Titrateable acidity: 1.5 to 2.2%

Brix: 70 degrees

pH: 3.7 to 4.2



Prune Juice Concentrate

Made by extracting juice from dried plums and then concentrating it to a sugar level of 70 degrees Brix, prune juice concentrate is a sweet and tangy syrup the color of molasses. Prune juice concentrate pairs well with soy sauce and balsamic vinegar. In small concentrations, it may replace some soy sauce, allowing for lower overall sodium levels. In dark sauces, it can be used to replace 20% to 50% of the honey, brown rice syrup, agave syrup, corn syrup or invert sugar in a recipe. Because it also imparts sweetness, it allows for lower overall sugar levels. It also brings a natural caramel color to products when used in small quantities.

Sorbitol: 16.96%

Fiber: 5.14% soluble, .53% insoluble

Titrateable acidity: 1.5 to 2.2%

Brix: 70 degrees

pH: 3.5 to 4.2



Q&A: Culinary Insight

Learn how prune plum ingredients function behind the scenes to assist with developing better-for-you, full-of-flavor, trending sauces.



Chef Rick Perez

Developing new sauces or reformulating existing products to meet the needs of today's flavor-adventure-seeking health and wellness consumer is more of an art than a science, according to Rick Perez, research and development chef and spokesperson for Sunsweet Growers Inc., Yuba City, Calif. *Food Business News* spoke with Chef Perez to better understand how prune plum ingredients can assist with formulating next-generation sauces.

Food Business News: What differentiates Sunsweet's ingredients from other products in the marketplace?

Chef Rick Perez: Our ingredients are derived from the French D'Agen prune plum variety. They are farmed, harvested and processed using proprietary technology to produce an array of non-GMO ingredients. Our Amaz!n™ Plums are distinguished from common table plums by their high levels of natural sorbitol, desirable acids, fiber and antioxidants. Eaten fresh or dried, they are among the world's healthiest foods. At the same time, their rich flavor, deep color, smooth texture and bright acidity inspire a range of culinary applications, including sauces. That's why we call

our plums nature's richest fruit. We recognize their exceptional levels of flavor, nutritional components and antioxidant phenolic compounds (up to 150 milligrams per 100 grams). What also differentiates our ingredients is the variety we provide. By processing prune plums into juice concentrates, powders and purees, we turn this rich fruit into a hard-working ingredient for any foodservice or research and development kitchen.

FBN: How is it possible to use prune plum ingredients to reduce sugar in sauces when the fruit naturally contains sugar?

RP: Our prune plums are naturally lower in sugar compared with other kinds of dried fruit. The

SUNSWEET INGREDIENT ATTRIBUTES FOR SAUCES

INGREDIENT	SUGAR/ SALT REDUCTION	FLAVOR ENHANCING	COLOR/ BROWNING	IMPROVED YIELD	TASTES LIKE
Fresh Plum Concentrate	●	●	●	●	Tart cherry, pomegranate molasses
Dried Plum Puree	●	●	●	●	Tamarind, plums
Prune Juice Concentrate	●	●	●	●	Molasses

sugar content of a dried prune plum is 40% lower than raisins and 50% lower than dried cranberries. Yet they still taste sweet because much of their sweetness comes from sorbitol, a sugar alcohol, which is not included in the calculations for sugars or calories. In addition, the natural acidity of the fruit draws out sweetness. Using prune plum ingredients allows sauces to have less sugar overall but still taste sweet.

FBN: How do prune plum ingredients assist with lowering the sodium content of sauces?

RP: Over the years we have found that for almost all recipes that have been modified to incorporate prune plum ingredients, it becomes necessary to reduce salt to achieve the right balance of flavor. The reason is that our ingredients naturally draw out flavor, accenting food much like a few drops of lemon juice might help bring balance to a soup or stew. This comes from organic acids, mostly malic and quinic, which make up about 1.5% of the ingredients. We recommend taking out at least 15% of sodium in a sauce formula to start, but often we find that it may be possible to reduce sodium by much more.

FBN: What are some other functional properties of prune plum ingredients?

RP: Depending on the prune plum ingredient, it may enhance the color in a sauce, eliminating the need for caramel coloring. In some recipes, prune plum ingredients have been shown to smooth out flavors and mask off flavors, like

the metallic taste that comes from canned tomatoes. They can also contribute to viscosity and draw out the herbs and spices, allowing for an overall smaller quantity of seasonings.



Add Flavor Appeal to Meat-Centric Diets

The Paleo diet is based on the concept of eating what humans are genetically adapted to eat, in other words, foods presumed to have been eaten by early humans. This consists mainly of meat, fish, vegetables and fruit, and excludes dairy or grain products and processed food. It is estimated that 1% of the U.S. population follows a Paleo diet and that its popularity is growing.

There's an even larger segment of the population that restricts carbohydrate intake, either for health reasons, e.g., diabetes, or for wellness benefits. These consumers avoid the carbohydrates found in grains, sweeteners, and starchy fruits and vegetables. They seek out foods high in protein and fat. Both types of diets often include lots of meat and poultry.

To live up to these proteins, consumers rely on herbs and spices because traditional condiments often contain large amounts of sugar or syrup, the carbohydrates these dieters want to avoid. Culinary professionals are increasingly exploring the use of prune plum ingredients to make no-added-sugar sauces that appeal to Paleo and low-carb dieters.

"Compared with sucrose, which has a relative sweetness rating of 100, prune juice concentrate has a relative sweetness



of 46.95," says Rick Perez, research and development chef and spokesperson for Sunsweet Growers Inc., Yuba City, Calif. "Yet in blind tastings, most people prefer these no-added-sugar sauces to comparable sauces with added sugar."

Chef Perez and his team developed a number of no-added-sugar sauces using prune plum ingredients. There's a traditional marinara with 2% fresh plum concentrate, which rounds out flavors and drives down acidity, enhancing the impact of the tomatoes and herbs. Higher levels of the ingredient work similarly in pizza sauce, salsa and enchilada sauce.

"Fresh plum concentrate along with dried plum puree can be used to make no-added-sugar barbecue sauces," he says. "By varying the amounts and the herbs and spices, we've made everything from classic to spicy to tamari barbecue sauce."

About Sunsweet Ingredients

Sunsweet Ingredients are produced by Sunsweet Growers Inc., a grower-owned cooperative founded in the valleys of Northern California in 1917. Headquartered in Yuba City, Calif., Sunsweet has evolved into a global company with wide international distribution of branded retail products and dispersed production operations in California, Chile and Argentina. All of processing takes place at the company's 22-acre factory in Yuba City, which is the largest dried plum processing facility in the world.

Even after 100 years in business, the core of Sunsweet's mission has always been the same: to provide consumers great eating experiences and

good health. The practices of Sunsweet's growers ensure the best flavor, nutrient levels and consistency in the industry.

For more information about Sunsweet Ingredients, visit [Sunsweetingredients.com](https://www.sunsweetingredients.com).

