

BY KAREN NACHAY



# Highflying Sauces

Sauce products are flying off store shelves as consumers look for inexpensive ways to enhance recipes. Product developers and chefs continue to formulate new sauces with ethnic/regional and bold flavors as well as varieties that help consumers meet certain dietary needs.

Sauces are the culinary workhorse of the food world. They add color, a concentrated burst of complementary or contrasting flavor, and texture to everything from salads and pasta to meat and fish. Savory or sweet, hot or cold, thin or thick, a topping or a mix-in, sauces have crossed cultural borders and are part of virtually all major cuisines. Without sauces, spaghetti would be just a pile of wet noodles.

Sauce-like applications have been around for centuries, but it was between 1400 and 1700 that sauce development began its evolution to what we are accustomed to today as a result of the introduction of new ingredients, preparation and processing methods, and various cooking utensils (McGee, 2004). As the years passed, butter- and cream-based sauces rose in popularity in Europe and America as a result of French culinary influence (Smith, 2007). Since then,

sauces have evolved as people experience new flavors and cuisines. Today, hot sauces, regional barbecue sauces, spicy and sweet Asian sauces, and Indian simmer sauces are as popular as ever. Product developers and chefs continue to innovate by using cutting-edge ingredients and on-trend flavors to meet consumers' expectations.

## Sauce Sales Pick up Steam

The recessionary climate has led many consumers to eschew restaurant trips or to reduce their frequency and instead cook or prepare meals at home. Using sauces is a relatively inexpensive way for people who prepare meals at home and for chefs to add interest to food or to try new flavors. "You can create new dishes and change flavors and be on trend by simply just adding a sauce or changing a sauce," says Mathew Freistadt, Corporate Chef & Culinary Manager

*The popularity of sauces continues to grow as consumers look to flavorful and inexpensive ways to add variety to foods.*

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*Barbecue flavors and sauces* taste differently depending on region. Food producers are formulating products that play into these regional preferences.

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R&D, Wixon. “It changes the whole dynamic of that dish.” Kara Nielsen, Trendologist, Center for Culinary Development, agrees and adds that product developers, chefs, and home cooks use sauces to make subtle or substantial changes that will affect the whole dish or product in flavorful and unique ways.

Sauce products offer convenience. *Jack Daniel’s® EZ Marinader®* from H.J. Heinz Co. is liquid marinade in a 12-oz bag large enough to hold 2-3 pounds of meat, poultry, or vegetables, eliminating the need for bowls, pans, bottles, foil, and plastic wrap. Sauces lend themselves to experimentation,

especially in the foodservice sector; you can include an up-and-coming or unusual ingredient in sauces to introduce people to the ingredient or flavor, notes Nielsen.

Consumers tend to associate hamburger, pork, and steak with a few types of sauces, and this limited association presents opportunity for product developers and chefs to formulate more creative sauce options for these foods (Technomic, 2009). Sauces are even featured in some interesting applications: At the 2011 IFT Food Expo in New Orleans, La., Tabasco Brands® Industrial Ingredients/McIllhenny Co. »

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Sweet sauces are the perfect accompaniment for fruit, ice cream, baked goods, and even savory foods like cheese.

Photo courtesy of Happy Goat

formulated its *Tabasco* sauce in mac & cheese, king cake, and coffee prototypes, and Kikkoman Sales USA Inc. flavored cream cheese prototypes with *Kikkoman*

***Product developers, chefs, and home cooks use sauces to make subtle or substantial changes that will affect the whole dish or product in flavorful and unique ways.***

*Asian* sauces, including *Sriracha Hot Chili Sauce*, *Plum Sauce*, *Thai Style Chili Sauce*, and *Sweet Soy Glaze*. “Sauces are great on all types of food—from eggs and pancakes to vegetarian and vegetable dishes to roasted meats and whole-grain side dishes,” states Meredith L. Bishop, Principal Food Scientist, Spicetec Flavors & Seasonings. “Sauces can be used to flavor just about anything and come in all different textures and flavors. The applications and flavors are only limited

by what you can think up and the ingredients available to you.”

Demand is up for sauces, which is driving sales: The global market for these products is expected to reach \$72 billion by 2015 (the number includes condiments, dressings, and seasonings as well) (GIA, 2011). Mintel predicts continued success in the cooking sauces and marinades categories with sales projected to reach \$4.4 billion by 2015 after hitting the \$3.7 billion mark in 2010 (Mintel, 2011). The company’s research also found that 83% of adults who cook/prepare meals at home use cooking sauces and marinades when preparing meals and 74% use store-bought sauces and marinades (Mintel, 2011). “It is a massive category with literally hundreds and hundreds of products coming out year after year,” says David Browne, Senior Analyst, Mintel Group Ltd.

## Sauce Standouts

With such saturation in the sauce category, marketers are making certain claims, and product developers are formulating products based on consumer research to differentiate their products from competitors or to address

consumer demands about nutrition. One in four consumers who cook at least half of their meals at home and who use store-bought sauces report that purity claims like “natural,” “kosher,” or “no additives and preservatives” are important when they shop for sauces (Mintel, 2011). About one-quarter (26%) of consumers say they prefer organic or all-natural sauces and condiments, and 27% believe these products to be healthier than other sauces and condiments, according to

a consumer survey conducted by Technomic Information Services (Technomic, 2009).

Formulating a product with high-quality ingredients and calling it out as “premium” helps to attract consumers seeking to recreate restaurant-quality food at home. Using words and phrases like “signature,” “original,” “secret recipe,” “homemade,” and “fresh” are ways to make the product special so that consumers think it is something that they can’t get everywhere, says Kim Holman, Vice President—Marketing, Wixom. Many of these products positioned as “premium” are also made without certain additives or preservatives.

To help the millions of children and adults who suffer from food allergies or food intolerances, food manufacturers offer sauces made without gluten, dairy ingredients, or other common food allergens and make “free-from” claims on front of package. Mintel’s Global New Product Database research shows that from 2008 to 2010, 31 new sauce/marinade products with a gluten-free claim were launched, and the amount of new sauce/marinade prod-

ucts with allergen-free claims doubled to 31 (Mintel, 2011).

In addition to an interest in products made without additives and preservatives and ones that are free from food allergens, consumers are concerned with sodium and sugar content. For years, doctors and nutritionists have warned consumers about the health problems associated with consuming too much sodium and sugar. Now, pressure by health associations and consumer groups on the government



**Food marketers are emphasizing** what is not in sauce products or are using buzz words like “gourmet,” “homemade,” and others to grab consumers’ attention.

Photo courtesy of Sukhi’s Gourmet Indian Foods

and food manufacturers to lower added sodium and sugar in foods has made some consumers more aware of their food choices and encouraged some food manufacturers to reformulate products or create low-sodium and low-sugar alternatives. Of those consumers who cook/prepare meals at home and use store-bought sauces, 39% say low sodium and 28% say low/no sugar is important to them (Mintel, 2011).

There is a significant amount of sugar in many sauce products, and consumers really do not understand this, says Holman, so low-sugar product development is a huge opportunity area for product development. While manufacturers have replaced high fructose corn syrup with other sweeteners in some sauce, marinade, and condiment products amid consumer concerns about the ingredient, now the emphasis should be on reducing overall amounts of added sweeteners, she adds. Likewise with sodium, as the Institute of Medicine in 2010 encouraged the government to establish federal standards for the amounts of sodium that food manufacturers, restaurants, and foodservice operators add to foods and beverages. “Cooking sauces are very handy, shelf-stable, incredibly flavorful, and authentic, but the sodium levels are astronomical,” says Browne.

Lowering sodium in sauces (and other products for that

## Moving into the Mainstream

The Center for Culinary Development (CCD) has followed seven sauce and marinade developments as they move from the menus of fine dining and independently owned restaurants to being featured in food magazines and sold at specialty stores to being available on the menus of quick-service restaurants and shelves of supermarkets (PF and CCD, 2011). Much has been written about the popularity of ethnic cuisine, and all of these sauces on the CCD’s trend radar have origins in countries other than the United States or incorporate ingredients from ethnic cuisines. Many of the sauces listed here are incorporated in recently introduced menu offerings, product prototypes, and finished packaged goods.

- **Poutine.** This popular Canadian dish of French fries topped with cheese curds and brown gravy is served in some fine dining establishments and from food trucks.

- **Gastrique.** A thick syrupy sauce made from a French reduction of sugar and vinegar, gastrique balances the flavors of meat dishes that are often prepared with fruit. Chefs use gastrique on meat, fish, and desserts. CCD found that recipes for the sauce are appearing in gourmet food magazines, and reports that the sweet-and-sour flavor (a popular flavor combination among consumers) of the sauce presents an opportunity to develop and manufacture bottled gastrique for home use.

- **Romesco.** CCD has noticed this sauce—made from roasted red peppers, almonds, breadcrumbs, olive oil, and garlic and having roots from the Catalan region of Spain—appearing on the menus of chain restaurants. As Spanish cuisine grows in popularity, chefs can incorporate romesco into a variety of dishes, and food manufacturers can formulate sauces and marinades for sale at specialty stores and supermarkets.

- **Harissa.** This spicy chili paste usually accompanies couscous in Tunisian dishes, but celebrity chefs have used it as a dip for French fries and a garnish for sandwiches,

notes CCD. Jars of harissa have also been spotted at specialty stores like Williams-Sonoma.

- **Chimichurri.** An herb sauce from Argentina, chimichurri is made from parsley, olive oil, garlic, and salt. Grilling recipes feature the sauce, which is available in the seasonings aisle in some grocery stores.

- **Sriracha.** The room for growth of this hot sauce made from chili peppers, vinegar, garlic, sugar, and salt is great, especially with only one major U.S. producer of the sauce, according to CCD. Bottles of Huy Fong Foods Inc.’s *Rooster Sauce* are found next to ketchup and mustard on tables of some restaurants and on supermarket shelves.

- **Aioli.** This garlic mayonnaise is available at both fine dining establishments and fast food outlets, and it used as a topping, dip, and spread. Chefs and product developers are showing how versatile the sauce is by adding ingredients like lemon, herbs, chili peppers, and others to it.

Of special note is what CCD calls “umami in a bottle.” Referred to as the “fifth taste,” umami is not an ingredient but a savory taste that comes from the amino acid glutamate. Tomato sauce and ketchup are rich in umami and so are other familiar ingredients often added to sauces like mushrooms and parmesan cheese.

Some products and at least one restaurant emphasize umami in their names. *Taste #5 Umami Paste™* from Laura Santtini is a concentrate paste made from olive, anchovy, porcini mushroom, parmesan cheese, and tomato—all umami-rich foods themselves. “The restaurant Umami Burger is educating people about umami ingredients and how important they are to building flavor by offering a choice of sauces that all have an umami kick to them,” states Kara Nielsen, Trendologist, CCD. As more consumers become familiar with umami, product developers can take the opportunity to formulate products that call out or underscore umami (PF and CCD, 2011).

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*Sauces can be thick or thin, and ingredients are available to help product developers achieve optimal viscosity, texture, flavor, and appearance for any given sauce application.*

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matter) can be a tricky endeavor for product developers, though, because consumers often equate lower-sodium foods with poor taste. Generally, companies are cautious in terms of how overt they are in marketing the fact that products have lower sodium, and, oftentimes, they reduce the sodium without even telling consumers, says Browne. Nevertheless, manufacturers have introduced low-sodium sauces formulated with a number of ingredient innovations. (See the sidebar “Balancing Function and Health” on page 50 for low-sodium sauce prototypes

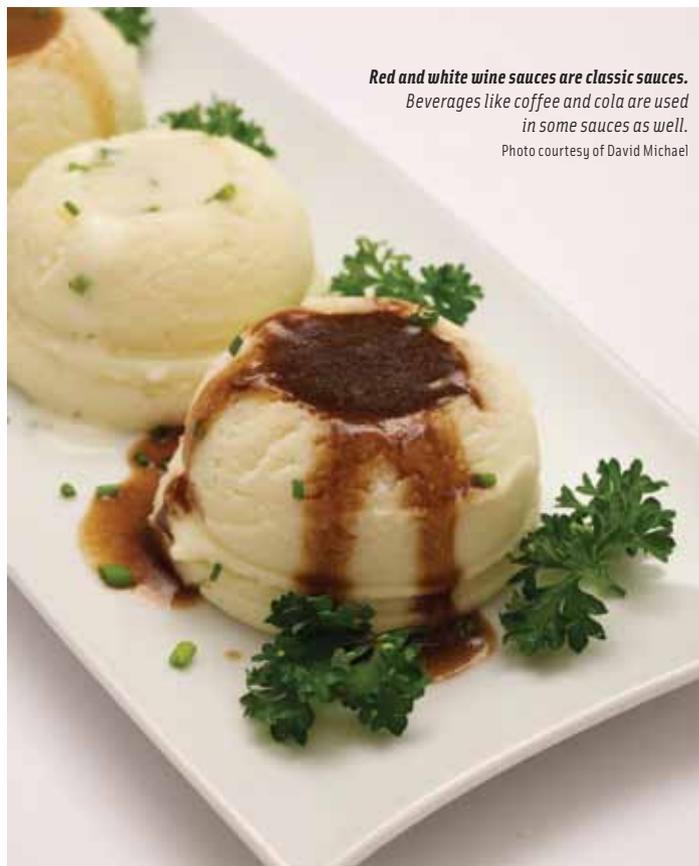
as well as other prototypes highlighting various functionalities of ingredients that were featured at the 2011 IFT Annual Meeting & Food Expo.) “Marketing lower-sodium is risky, but I think that consumers want it, so you have to figure out some sort of balance,” says Browne.

## **Flavor Rules in the Sauce Market**

Flavor is big across all product categories, and for sauces, it is no different. Ethnic flavors, bold flavors, flavor combinations—all of these are attracting consumers, differentiating products from each other, and helping to drive sales of sauce products. Mintel reports that U.S. sales of ethnic sauces reached \$712 million in 2010 (19.4% of total U.S. sales of cooking sauces/marinades) and are expected to reach \$880 million in 2015 (Mintel, 2011). “The fastest-growing segments in the U.S.

are Hispanics and Asians,” says Browne. “As such, marketers should be creating offerings that appeal to them, including traditional flavors that may be more intense or unusual to the mainstream audience.”

Barbecue is a leading flavor profile across a number of menu offerings and commercial product goods and can easily be incorporated in sauces (Technomic, 2009). Like ethnic sauces, barbecue sauces have fared well, with 2010 sales at \$660 million, and could reach close to \$800 million in 2015 (Mintel, 2011). Freistadt, who has development expertise with barbecue sauces, considers barbecue sauce a versatile product that lends itself well to the inclusion of any number of different ingredients, from different kinds of chili peppers for added heat to pureed fruit or fruit nectar for sweetness, and from any



*Red and white wine sauces are classic sauces.*

*Beverages like coffee and cola are used in some sauces as well.*

Photo courtesy of David Michael

variety of vinegars for acidity to spices and herbs for flavor. It is a product category that is ripe for innovation. “Barbecue sauce tastes different depending on what part of the country you live in, and it is a golden opportunity for a company to create regionalized sauces that can be sold nationally,” adds Browne. This is exactly what French’s Flavor Ingredients has done; its *Cattlemen’s® Master’s Reserve™* line of barbecue sauces for foodservice includes formulations of authentic regional flavors from Memphis, Carolina, Kansas City, Texas, St. Louis, Mississippi, Kentucky, and Louisiana. Additionally, product developers and chefs are combining the flavors of traditional barbecue sauces with ethnic ingredients for an entirely different twist. Wixon is demonstrating global barbecue sauce prototypes at several 2011 IFT Section Suppliers Night events, including *Beijing BBQ Plum Sauce*, *Indian Tandoori BBQ Sauce*, and *Korean BBQ Sauce*.

Television shows that emphasize food and culture, increased travel, and the willingness to try something new have influenced consumers’ interest in experimenting with flavor. It also helps that cooking with sauces is a relatively affordable way to try new ingredients and flavor sensations. This interest is nothing new. The Romans used seasonings to create different sauces, and they even had a fondness for fermented fish sauces (Grimm, 2007), which we associate with South Asian cuisine. And cooks in Medieval Europe enjoyed sauces that had strong flavors (Woolgar, 2007), often seasoned with spices like ginger, pepper, cloves, mace, saffron, and cinnamon (Tannahill, 1988).

Today’s consumers will find no shortage of sauce products formulated with ingredients to provide authentic ethnic flair; impart bold, strong flavors for heat, sweetness, umami, and sour sensations; and create one-of-a-kind or unusual flavor combinations. The Sukhi’s Gourmet Indian Foods’ line of curry sauces and marinades and the Maya Kaimal™ line of Indian simmer sauces are representative of sauces from some of the different regions of India. Happy Goat recently introduced *Scotch Caramel Sauce* made with single malt scotch. Frontera Foods, whose founder Rick Bayless is known for introducing his restaurants’ patrons to foods and ingredients from regions in Mexico, offers *Mexico City Peanut Mole Simmer Sauce with Roasted Tomato and Chipotle* and *Oaxacan Red Chile Mole Simmer Sauce*

*with Ancho and Sesame*. Throughout the year, the company produces limited edition seasonal products like *Chipotle Pumpkin Salsa with Roasted Tomatillo*. Argo Century Inc. offers *TonTon™ Yuzu Dressing & Marinade* formulated with yuzu, a sour Japanese citrus fruit. Like some of the

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sauces prepared during medieval times, bold-flavored spices like cinnamon and ginger are featured in many retail sauces, including Dulcet Cuisine LLC's *Toasted Sesame & Ginger Asian Sauce* and *Tangy & Peppery Moroccan Sauce* and Annie Chun's *Shiitake Soy Ginger Sauce*. For its extensive line of sauces and marinades, Stonewall Kitchen blends on-trend ingredients to create *Maple Chipotle Grille Sauce*, *Vidalia Onion Fig Sauce*, *Curried Mango Grille Sauce*,

*Roasted Apple Grille Sauce*, *Roasted Peach Whiskey Sauce*, *Roasted Garlic Peanut Sauce*, *Pomegranate Grille Sauce*, and *Mushroom Sage Sauce*.

Ingredient suppliers continue to provide product developers with inspiration in sauce development. Bell Flavor & Fragrances at its 2011 Flavorology® event featured sauce prototypes such as *Calamansi Lime with Black Garlic Dipping Sauce*, *Moroccan Yogurt Dip* made with the company's harissa flavor, and *Crispy Wonton Wrapped*

*Shrimp with Citrus and Sriracha Dipping Sauce*. The company has previously developed sauce prototypes like *Yuzu Crema*, *Orange Chipotle BBQ Sauce*, and *Vanilla Bourbon BBQ Sauce*. Innova, a Griffith Laboratories Co., served *Chorizo Tomato Dipping Sauce* at the 2011 IFT Food Expo. David Michael develops a variety of prototypes that feature on trend and up-and-coming flavors for its annual Innovation Roadshow. This year's event highlighted

## Balancing Function and Health

The nutritional quality of products is important to many consumers who want to reduce added sodium, sugar, or fat in their diets or who want to avoid certain ingredients like gluten. Ingredient and product developers continue to innovate to address consumers' concerns. Just as important, though, are sensory aspects of the finished product, which are arguably as important to the bottom line, maybe even more important, than the overall nutritional qualities of the product. If a product does not taste good—no matter how “good-for-you” it is—consumers will not purchase it. More than ever, companies offer ingredients that can help to improve taste and texture of sauces and marinades, including those formulated with reduced sodium, sugar, fat, or other ingredients. What follows are descriptions of some of the sauce prototypes presented at the 2011 IFT Food Expo.

- Ajinomoto Food Ingredients featured its *Salt Answer™* ingredient system in a 25% reduced-sodium marinara sauce. The ingredient system works synergistically with lower levels of salt or salt blends to improve salt flavor.

- Cargill introduced *FlakeSelect™ Sodium Reduction System*, which uses a patent-pending compacting process to combine salt and other ingredients. Pressure is applied to the ingredients to produce clustered thin flakes that have low bulk density, high solubility, and large surface area. The company demonstrated this ingredient in a

reduced-sodium sausage pizza, which had a 35% reduction of sodium and also featured reduced-sodium marinara sauce, pizza crust, sausage crumbles, and mozzarella cheese.

- Corn Products International and National Starch Food Innovation highlighted *Novation™ Prima 600* functional native starch in goat cheese grits with wild mushroom Madeira cream sauce. The ingredient provides a smooth texture to products like sauces, the freeze/thaw performance of modified starch, and tolerance to low-temperature storage. It is labeled as corn starch.

- Grande Custom Ingredients Group had food scientists on hand to discuss and demonstrate how its *Grande Bravo® Functional Whey Proteins* achieve desired textural properties in sauce products like cheese sauce and Alfredo sauce. They improve texture and mouthfeel (ranges from smooth and gel-like to heavy and tacky), replace dairy solids, reduce the use of stabilizers and emulsifiers, have high viscosity and water-binding capabilities, and are heat-, acid-, and freeze-thaw-stable. Some require the application of heat to achieve viscosity and gelling and others bind water without heat and hold water upon heating.

- Kikkoman Sales USA Inc. formulated beef jerky with *Kikkoman Sodium PIN* (Premium Total Nitrogen) *Soy Sauce*, a tamari-style soy sauce with 45% less sodium than regular soy sauce. The company's proprietary process to reduce sodium produces

a soy sauce with 15% stronger flavor, no dilution, and a higher amino acid content to enhance flavor.

- Specialty wheat proteins and starches are used to add or enhance texture in a variety of foods, including sauces. A reduced-sodium sweet-and-sour sauce featured *Midso™* specialty cook-up wheat starch from MGP Ingredients Inc. The ingredient provides a smooth texture and can hold up to high temperatures and acid.

- Purac America Inc. showcased its *PuraQ® Verdad RV70* antimicrobial ingredient in a 30% sodium-reduced Alfredo sauce to show how the ingredient can boost flavor and enhance salt perception.

- Sensient Technologies Corp. supplies a range of hydrolyzed vegetable proteins under the name *SensaSalt™* and featured the ingredients in *Hearty Authentic Italian Pizza Sauce 50% Sodium Reduction* and *Creamy Three Cheese Alfredo Sauce 50% Sodium Reduction* prototypes.

- Spicetec Flavors & Seasonings offers a low-sodium flavor system to build the dairy and cheese flavors that are lost when reducing sodium, improve mouthfeel, and enhance cheese notes in Alfredo sauce. The company demonstrated this in a 30% reduced-sodium Alfredo sauce.

- TIC Gums presented three sauces made with different gum systems with similar viscosities and solids to illustrate the importance of texture in the early stages of product development.

*Bulgogi (Korean BBQ) Sauce; Shiso Ginger Butter Sauce; meatballs served with Sesame Ginger Lime Sauce, Yogurt Sauce, and Mushroom Sour Cream Sauce; Maghreb Fruit & Almond Milk Sauce for Chicken, and brown gravies made with white wine, merlot, and cabernet flavors.*

Consumers love the flavors, convenience, variety, and inexpensive cost of sauces. “The recession created an environment that really benefited this category, and that’s not true of a lot of categories,” remarks Browne. The category offers more than typical marinara, barbeque, or steak sauces. Now consumers can purchase sauces representative of many regional and international cuisines, formulated with ingredients both familiar and unfamiliar, and offered as limited editions. As sales of these products are expected to increase over the next few years, product developers and chefs have their work cut out for them in developing standout sauces to meet the evolving taste preferences and nutritional needs of consumers. **FT**

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## REFERENCES

- GIA. 2011. Global condiments, sauces, dressings, and seasonings market to reach US\$72 billion by 2015. Press release, Jan. 10. Global Industry Analysts Inc., San Jose, Calif. [www.strategyr.com](http://www.strategyr.com).
- Grimm, V. 2007. “The good things that lay at hand: tastes of ancient Greece and Rome,” in *Food: the history of taste*, ed. P. Freedman. 92, 94–95. University of California Press, Los Angeles and Berkeley.
- McGee, H. 2004. *On food and cooking: the science and lore of the kitchen*. Scribner, New York.
- Mintel. 2011. *Cooking sauces and marinades—U.S.—April 2011—executive summary*. Mintel Group Ltd., Chicago, Ill. [www.mintel.com](http://www.mintel.com).
- PF and CCD. 2011. *Culinary trend mapping report: condiments & sauces executive overview*. Packaged Facts, Rockville, Md. [www.packagedfacts.com](http://www.packagedfacts.com). Center for Culinary Development, San Francisco, Calif. [www.ccdsf.com](http://www.ccdsf.com).
- Smith, A.F., ed. 2007. *The oxford companion to American food and drink*. Oxford University Press Inc., New York.
- Tannahill, R. *Food in history*. 1988. Three Rivers Press, New York.
- Technomic. 2009. *The flavor consumer trend report: attitudes and usage study exploring sauces, dips and condiments*. Technomic Inc., Chicago, Ill. [www.technomic.com](http://www.technomic.com).
- Woolgar, C.M. 2007. “Feasting and fasting: food and taste in Europe in the Middle Ages,” in *Food: the history of taste*, ed. P. Freedman. 175–176, 177. University of California Press, Los Angeles and Berkeley.