

Pouring on Specialty Oil Ideas

By Tamie Cook, Contributing Editor

They say variety is the spice of life. And, if that's the case, the product and menu developer's pantry can be a veritable smorgasbord of piquancy. Literally, we have the world at the end of our whisk, and this has never been truer than when it comes to reaching for oils.

In days past, choices were largely limited to vegetable, peanut, soybean, the occasional variety of olive oil and, on a good day, extra virgin olive oil. No longer confined to these basics, myriad choices now address today's ingredient requirements for health, variety, taste and versatility. Whether it's for a new dish on the menu or the next big product line, look at the choices, learn about their many uses and try some new oil on your palette.

Most fruit, nut and seed oils generally undergo comparatively little processing. Many are mechanically, or "expeller," extracted and are unrefined so no solvent was used to extract the oil, and no bleach or deodorizing agent was used to refine it. Thus, the oil retains its full, natural flavor, aroma and color, and many of its naturally occurring nutrients. This translates into a product that not only adds flavor to a dish, but also adds value to a menu or product.

Shedding new light on an old friend

When it comes to olive oil, everything old is new again. The olive tree, a native of Asia Minor, has been around for more than 6,000 years. It is believed to have been first cultivated in Greece for oil production. Production spread relatively quickly to other parts of the world, most importantly Italy and Spain, and more recently California. By the time it reaches the end user, the oil's quality and flavor have been influenced by the olive variety, climate, soil conditions and extraction process.

Olive oils are graded by production method, acidity and flavor. The International Olive Oil Council (IOOC), Madrid, Spain, sets quality standards that most olive-oil-producing countries use.

"Extra virgin" olive oil is derived from cold pressing of olives without any refining. It has a distinctive aroma and intense, fruity flavor, with an extremely low acidity (less than 0.8%). It's best used fresh in salad dressings, or as a condiment or dip. Don't waste this elixir on anything but the highest-quality dishes where nothing competes, covers it up or interferes with its unique flavor.

"Virgin" olive oil is also derived solely from the pressing of olives and doesn't undergo refining. With an acidity level of less than 2%, it has a mild aroma and a light, fruity flavor that varies in intensity. Add it to hummus or other creamy dips when you want to add a luscious, fruity flavor to an already delicious product. Substitute virgin olive oil for some of the fat in a vanilla ice cream for an herbaceous, fresh, fruity flavor.

Plain “olive oil,” usually described as “pure” or “100% pure,” blends refined olive oil and extra virgin or virgin olive oil. Because the refined oil is neutral in flavor, it must be blended with extra virgin or virgin olive oil to enhance its flavor. This olive oil has an acidity level of less than 1% and is excellent for light sautéing and baking.

“Olive pomace oil” is a blend of refined olive pomace, the crushed olive material that remains after pressing, and virgin olive oil. The pomace oil is extracted with solvents. Olive pomace oil is a good choice for a sauté or deep frying due to its mild flavor and higher smoke point.

In Italy, one dish in particular is synonymous with olive oil: bruschetta. Since the 15th century, Italians have been serving this appetizer of crusty, toasted bread, garlic and only the very best olive oil. In France, tapenade, a Provençal specialty, is prepared with only the best olives and olive oil. Grecian bakers are responsible for introducing the world to olive oil through their baked goods. Traditional breads, cakes and cookies, such as *melomakarona*, a traditional Greek Christmas cookie, have been prepared for centuries using olive oil. And in Spain, no gazpacho is complete without the addition of a good-quality olive oil.

A fruit of another color

A relative newcomer to the specialty-oil arena, avocado oil, has surged onto the culinary scene in recent years. With its high levels of monounsaturated fats and vitamin E, its unbelievably high smoke point and great taste, it makes you wonder why it took so long.

The earliest record of the existence of avocado, a native of Mexico, Central America and South America, was found at an archaeological dig in Peru—avocado seeds were buried with a mummy dating back to the

Oil Oxidation Control, Naturally

One of the challenges with many specialty oils is preventing oxidation—especially in those that contain a high level of unsaturates. These double bonds are extremely susceptible to oxidation. Add light and exposure to air, plus mix with any number of pro-oxidants, like salt, and you have a recipe for rancidity.

To extend oil shelf life, suppliers routinely add antioxidants to susceptible oils, but consumers are increasingly shying away from synthetic additives like BHA and BHT, especially in premium products. Some oils are naturally high in antioxidants, such as vitamin E and the other tocopherols, but many require an added boost to increase performance under practical conditions. “Typically, a blend of natural ingredients, including natural herb extracts and various vitamins, can result in a perfect solution for your oil application,” says John C. Weaver, Ph.D., product application and development director, Kalsec, Inc., Kalamazoo, MI.

“In addition to tocopherols acting as a free radical scavenger, citric acid may be added to a natural extract blend to inhibit the initiation of oxidation—a preventative antioxidant—by chelating metals present in the oil system,” says Weaver. “Also, ascorbic acid—vitamin C—will help regenerate antioxidants like tocopherols and natural phenolic antioxidants by acting as a reducing agent within oil systems.”

Extracts of rosemary and sage are among the most-common natural, spice-based oxidation inhibitors. Rosemary, for example, has a variety of compounds responsible for antioxidant activity, most notably the phenolic diterpenes carnosic acid and carnosol, explains Weaver.

Low-flavor products are available, so they impart little to no flavor in oils when used at effective levels. “Usage levels can vary between 0.1% and 0.4%, depending on the product being used, oil being stabilized and the application,” says Weaver. “This can give a specialty-oil based product a clean label since the product is simply labeled ‘Natural Flavors.’”

—The Editors

8th century B.C. Florida saw the first U.S. planting of avocado trees in the 1830s. Today, California gives us almost 80% of all of the fruit grown in the United States.

Avocado oil is a premium, cold-pressed, extra virgin oil extracted from the first pressing of avocado flesh. It is available all-natural and unrefined. Although most refined avocado oil is designed for the skin-care industry, some culinary types are available that are suited to high-heat applications.

According to the California Avocado Commission, Irvine, avocado oil can be produced from all varieties of avocados, but larger varieties harvested late in the season yield more oil and better flavor. The avocados are allowed to mature on the tree for up to 18 months. Once ready, the skin and seed are removed before milling and separation of the oil from the pulp. It is often lightly filtered and then quickly bottled in dark bottles to protect it from light and oxygen.

Product and menu developers are discovering the wide range of culinary uses for avocado oil. Its light, slightly nutty flavor is perfect for enhancing the flavor of a packaged guacamole. In addition, its vibrant, deep-green color gives a plate a visual appeal that other oils can't match. Tossed in a roasted new potato salad, it adds not only an appealing color, but also a warm, rich aroma. It's extremely high smoke point may even make it a possible option for high-end restaurants looking for an alternative to the trans-fat-laden oils routinely used in the past.

Smoke Points

Knowing an oil's smoke point is important to determine its appropriate use—once an oil exceeds its smoke point, it begins to break down and is no longer suited to consumption.

These are general guidelines. Each manufacturer's processing will differ slightly, so refer to product specifications for exact temperatures.

Oil – Smoke Point

Almond – 420°F	Olive – 440°F	Pumpkin seed, unrefined – 250°F*
Avocado – 520°F	Olive, extra virgin – 405°F	Sesame seed, unrefined – 350°F
Canola oil, refined – 400°F	Olive, pomace – 460 F	Soybean oil, refined – 495°F
Grape seed – 420°F	Olive, virgin – 420°F	Walnut – 400°F
Hazelnut – 430°F	Peanut, roasted, unrefined – 320°F	
Macadamia – 410°F	Pecan – 470°F	*Hay River pumpkin seed oil

References: Cooking for Engineers (cookingforengineers.com) and the "Good Eats" Fan Page (goodeatsfanpage.com)

An easy nut to crack

Nuts are no longer just for munching. You can look on the shelf of just about any store and find a plethora of specialty nut oils. Most of these are made through expeller pressing after the nuts have been roasted, giving each oil a deep flavor and aroma. While some nut oils can be used for light sautéing, they are at their very best as a blast of flavor on their own or in salad dressings, sauces and even in baked goods. Gourmet cakes and cookies made with nut oils have a depth of flavor not achieved with other fats.

Almonds might be one of the oldest cultivated foods in the world, and a high-priced commodity on the “Silk Road” between Asia and the Mediterranean. The almond made its way to Italy and Spain, and these two countries became the world’s first major almond producers. Today, the almond is the No. 1 tree nut crop in California’s Central Valley, where 75% of the world’s almond supply is produced. Almond oil is widely used in India in curries and duck dishes, and in China in duck and chicken dishes.

The macadamia tree is native to Australia but has, over time, become closely associated with Hawaii since its introduction there in the late 1880s. It became a major commercial crop, and is now tied to the Polynesian cuisine of the islands. The nut itself has always been an integral part of fish dishes, sauces and sweets. Today, product and menu developers are discovering macadamia oil’s great versatility, using it for everything from making mayonnaise to sautéing fish and chicken. It’s great when used in a banana macadamia nut muffin, in addition to the nuts, to give it yet another layer of macadamia flavor.

According to a manuscript found in China from the year 2838 B.C., the hazelnut, also known as a filbert, was one of the five sacred nourishments God bestowed to human beings. The tree made its way to Italy, Spain and France, via Greece, and the first hazelnut trees were planted in the United States in Oregon in the late 1850s. Today, the U.S. industry is thriving, with almost 30,000 acres planted.

Traditionally, in France, hazelnut oil is seen in dishes combined with green beans, potatoes and pasta. Hazelnut oil is delicious in baked goods, due to its strong, nutty flavor and wonderful aroma. Hazelnut oil is a delicious addition in any dish where you would normally use hazelnuts to intensify nutty notes, or perhaps substitute for the nuts and deliver a nutty flavor.

Greek use of walnut oil dates back to the 4th century B.C. Today, California is the largest producer of walnuts in the world. Walnut oil is traditionally made in France and used fresh in vinaigrettes, or in sauces for seafood or steak. Walnut oil’s scrumptious flavor is easily broken down by high heat, so it should be used fresh. Toss in a pasta dish with sautéed spinach, Parmesan and chopped walnuts. Its nutty flavor and aroma makes the perfect contrast sprinkled over oven-roasted asparagus.

Pecan and pistachio nut oils are being seen more, and to great reviews. Due to their flavor and relatively low saturated fats, these new nut oils are taking their place on the culinary stage. Substituting them for other oils in dishes is a great way to introduce more flavor with less saturated

fat. Substitute these oils in baked goods such as coffee cakes and pound cakes. Sauté pecan-crusted trout in pecan oil, and drizzle pistachio nut oil on a fruit salad of apples and pears.

Anne Quatrano, chef-owner of Bacchanalia, one of Atlanta's most-celebrated restaurants, employs pistachio oil in a perennial favorite menu item. "We make a boneless, stuffed quail using a house-made mortadella that we prepare with pistachio oil," she says. "The oil really brings out the flavor of the pistachios that are already in the mortadella."

Seeds of change

Some of the least known and yet probably most ancient of all "new" specialty oils are derived from seeds.

Sesame is thought to have originated in the wild in Africa, but was first domesticated in India. Today, China and India are the world's largest producers of sesame seeds. Sesame oil is most popular in Asia, where it's used like olive oil in the Mediterranean. Besides its use as a moderate-heat cooking oil in South India, sesame oil is often used as a flavor enhancer in Korean and Southeast Asian cuisine. It has a toasty, nutty flavor.

While the grape will forever be associated with wine, grape seed oil, a byproduct of the winemaking industry, has been manufactured for hundreds of years. After pressing the grapes for wine production, the seeds are separated from the skins and stems, dried, and then cold-pressed. Grape seed oil is high in antioxidants and vitamin E, and has about half the saturated fat of olive oil. Its neutral flavor and high smoke point make it ideal for not only salad dressings, but also sautéing.

The odiferous mustard seed oil is produced from the seeds of mustard plants, which are indigenous to India. It is most commonly associated with Indian cuisines, used widely in curries and stir-fry dishes. It has a slightly bitter, pungent flavor, but without the level of heat sometimes experienced with prepared mustards. Long touted for its high levels of omega-3 fatty acids, it is now finding its way onto the plates of fine restaurants. "We serve a dish of house-made country terrine and drizzle a little mustard seed oil over it just before delivering to the table," says Quatrano. "It rounds out the flavor beautifully."

Pumpkin seed oil is derived from the Styrian pumpkin, a variety native to southeast Austria, a country that has been producing this oil since the 1600s. While primarily grown and produced in southeast Austria and parts of Slovenia, Croatia and Hungary, it has finally made its way to Canada and the United States.

"I first discovered this delicious oil while on a business trip to Austria, and after much thought, realized it is time that America began to enjoy the fruits of our own land," says Ken Seguine, partner, Hay River Foods, Prairie Farm, WI, the first producer of pumpkin seed oil in the United States. "Seeing as though the pumpkin was first domesticated by Native Americans, this made perfect sense." Traditionally, the oil was produced and used not only for its rich, nutty flavor, but also for its health benefits, which reportedly include helping regulate cholesterol levels and aiding in the prevention and

treatment of bladder and prostate problems. Its flavor and dark-green color make it an interesting and novel choice for salad dressings and dips. It's ideal for drizzling on pumpkin or squash soups and purées. Due to its very low smoke point, it should not be heated.

We like choices in this country, and I hope I've armed you with some facts to make your choices a little easier. More importantly, perhaps I've awakened you to the excitement and aroma of a new day when it comes to teasing the taste buds with flavorful and versatile specialty oils. Now that you know what each of these versatile oils is capable of, arm yourself with a few, go back to the bench, and start spinning those wheels of imagination.

Tamie Cook is culinary director for Atlanta-based Be Square Productions, the company which produces the Food Network show, Good Eats. She is a member of the Research Chefs Association, as well as the Institute of Food Technologists, Southern Foodways Alliance, International Association of Culinary Professionals and Les Dames D'Escoffier.