

# Olive Oil

## Liquid Gold for Your Kitchen

### International Cooking Series

In the early 21st century, Spain and Italy were the world's largest producers of commercial olive oil, followed by Greece. Other olive-producing countries include Turkey, Morocco, Tunisia, Portugal, Syria, and Algeria. Spain has the largest production of olive oil, accounting for half of production across the world. Spanish olive oil is typically golden yellow with a fruity, nutty flavor. Italian and Greek olive oils are often dark green and more robust. French olive oil is typically pale in color and mild flavored. California olive oil is light in color and the flavor is a bit fruity in taste.

While most countries blend olives from more than one place for more economical bulk-blended oils, these can still be of good quality. Some producers only use olives from a specific area of the country to provide unique flavors. The most expensive and often most flavorful come from estates that usually produce, hand pick, press the olives, then bottle the oil on the estate. These may also have a protected designation of origin (PDO) and protected geographical indication (PGI), which refer to olive oils with “exceptional properties and quality derived from their place of origin as well as from the way of their production.”

The purest extra-virgin olive oil has a pleasant aroma, thin texture, and an aftertaste of pepper flavor or bitterness (this should not linger long after you swallow). That slight peppery sensation in the back of the throat indicates a presence of polyphenols. Many producers or bottlers combine different varieties of olives to produce a specific flavor profile. Olive oils are graded by



production method, acidity content, and flavor. The International Olive Council has specific grade designations. While the U.S. is not a member, the USDA does have similar standards. Names usually indicate the degree of processing and the amount of acidity. Regardless of the designation, always check the expiration date, which should be 18 to 24 months from the harvest date. Some labels include the harvest date, usually October to January. Earlier harvest months have more polyphenols and a better shelf life.

Look for darker bottles to prevent oxidation and rancidity problems. All oils will turn rancid at some point in time, which affects the color, smell, and taste of the oil. The color starts to change to a brighter yellow as the olive oil begins to turn rancid. A rancid olive oil has little smell or may

smell slightly musty. Rancid oil may be bitter with no fruitiness. It may also feel greasy in your mouth. Storing olive oil away from heat and light can prevent it from turning rancid quicker. If you cannot use the olive oil within a year after purchase, store it in the refrigerator. Some of the oil may become less liquid, but this does not affect the quality; at room temperature the oil will return to a liquid state. Understanding how olive oil should smell, taste, and look, both when it's fresh and when it goes rancid, will help you identify an olive oil in its prime.

## How to Read the Bottle Information

As of July 2009, the European Union requires olive oil labels to state the country of origin of the olives used in the product to help prevent fraud in the industry. If it is a blend from different countries, the label must specify the countries. Sometimes, the label indicates that the oil was bottled or packed in a specific country, but that does not guarantee that the oil was produced there. For example, the front of the label may read, "Imported from Italy," but on the back it may read, "Packed in Italy with select extra-virgin olive oils from Italy, Spain, Greece, and Tunisia."

Extra-virgin olive oil (EVOO) is the highest grade available, followed closely by fine-virgin olive oil. These oils are made from the first pressing which removes about 90% of the olives' juice. Because no heat or chemicals are allowed during production, "cold-pressed" is often the term seen on the bottle. The method and the certification process are time-consuming and contribute to the higher prices of EVOO. While you can use extra-virgin olive oils in cooking, they are best in salads or as a condiment in which you can appreciate the delicate aroma and buttery flavor. Virgin olive oil and semi-fine virgin olive oil are best used in cooking, rather than in the raw state.

Virgin oils that don't meet the acidity level of less than 3.3% are sent to the processing plant to become refined olive oils. The process might include heat,



chemicals, and/or filtration. They are usually clean, odorless, and flavorless, with a long shelf life. Typically, they are blended with virgin oils for use in cooking, or in foods labeled "packed in olive oil." Olive oil or pure olive oil are blends of refined olive oil and virgin olive oil but usually withstand heat well.

Light or mild olive oil does not refer to fat content. These olive oils have undergone an extremely fine filtration process to remove the natural color, aroma, and flavor, providing a flavor that some consumers prefer. These are suitable for cooking or baking when the fruity olive flavor isn't preferred.

Sometimes manufacturers make high-quality flavored olive oils by adding spices, herbs, or citrus peel to extra-virgin olive oils during pressing. If you make your own flavored oils, make sure to store them in the refrigerator and use them within several days.

Organic olive oils, for which farmers have used no pesticides, fungicides, or herbicides to protect the crops, are available for purchase. If produced in the U.S., the label must read USDA Certified Organic.



## Tasting Olive Oils

To identify what kind of olive oil you prefer, try an olive oil tasting before your next dinner with friends. Choose a delicate, medium, and intense olive oil for tasting. To stage an olive oil tasting, pour one tablespoon in a small glass container, espresso cups or shot glasses work well. Each person should have three to five to taste. Include some for sautéing your favorite vegetable in and some to drizzle over your favorite salad. In between tasting oils, cleanse your palate with water or a slice of apple. The idea is also to have fun!

Before tasting, instruct your guests to cover the glass with their palm and swirl the olive oil. Then place the olive oil underneath your nose and inhale deeply to identify the aromas. Would you describe the aroma as fruity, pungent, bitter, herbaceous, buttery, grassy, or peppery? Now, slurp a small amount of the oil into your mouth, including air, and allow the oil to spread all around your mouth before swallowing. Ask the same questions. If you can envision using the olive oil in cooking, baking, or on your favorite salad, it may be a good selection for your kitchen.

## Cooking with Olive Oil

Extra-virgin olive oil is rich in monounsaturated fats, which are quite heat stable and less likely to undergo oxidization than some other oils. Studies have found that olive oil still retains large amounts of its healthy compounds after heating. Olive oil has a smoke point of 374 to 405 degrees Fahrenheit, about the same as canola oil. Cooking any oil past its smoke point can produce bitter, burnt, and unpleasant flavors. If left unattended, the oil will catch fire. Usually, you only need a small amount when cooking with olive oil. Heat the oil until shimmering, but not smoking. At this point, your oil is hot enough to cook with and does not need to be heated further. To substitute olive oil for vegetable oil (or another cooking oil) in your baking recipes, use a 1:1 ratio. Because olive oil has a distinct flavor, it might affect the flavor of the baked product. To try some simple



recipes, check out the CA Grown Blog at <https://californiagrown.org/blog/california-grown-olive-oil-everything-you-ever-wanted-to-know/>.

## The Bottom Line

There are many bottles of olive oil, good, bad, and exceptional to choose from. When heating olive oil to sauté garlic or fry an egg, the subtle flavor does evaporate, so my go-to is whatever is on sale that is a true extra-virgin olive oil. For drizzling on my favorite salad or my cacio e pepe, I enjoy a more intense flavor that costs a little more. My flavor profile leans toward Spanish and Italian olive oils. When I find one that I really like, I buy it again. Because I have a passion for cooking, when friends or family ask me what I want as a birthday gift, I often say flavored olive oils because they too can be fun to use. If you have the opportunity to visit the Mediterranean area, small agritourism farms or restaurants often bottle their own olive oil and allow you to try it before buying. If you are new to using olive oil, go to your local grocery and check out what is on sale on the extra-virgin olive oil shelf and read the labels. If you can determine it is



authentically true extra-virgin olive oil, based on the suggestions in this publication, then buy a small bottle and try it. Then you can keep expanding your favorites with each purchase. With time, you will find an olive oil that enhances your recipes, with added health benefits. Or, be adventurous, and try new brands.

## The Health Benefits

The health benefits of olive oil can be attributed to its high monounsaturated fatty acids content, which when substituted for saturated fat, helps lower your LDL cholesterol. Olive oil also contains oleic acid and polyphenols (antioxidants) which may reduce inflammation. While there are no definitive studies that show extra-virgin olive oil will prevent heart disease, cancer, or other diseases, there is enough evidence for the FDA to approve a qualified health claim on olive oil labels that states, “Limited and not conclusive scientific evidence suggests that eating about two tablespoons of olive oil daily may

reduce the risk of coronary heart disease.” The caveat is that the extra-virgin olive oil must be used within 12 to 18 months of its extraction date and stored at a temperature of 57 to 64 degrees Fahrenheit. Olive oil is one of the healthy ingredients included in the Mediterranean diet plan, which also includes plenty of fruits, vegetables, and nuts; whole grains; and lean protein.

### Resources

- International Olive Council. Designations and Definitions of Olive Oil. <https://www.internationaloliveoil.org/olive-world/olive-oil/>, accessed March 2023.
- North American Olive Oil Association. About Olive Oil. <https://www.aboutoliveoil.org/>, accessed March 2023.
- Tangney, C., & Rasmussen, H.E. Polyphenols, Inflammation, and Cardiovascular Disease. *Current Atherosclerosis Reports*, 2013 May; 15(5): 324. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3651847/>, accessed March 2023.

Sandra Bastin, PhD, RD, LD, Extension Food and Nutrition Specialist  
March 2023

Copyright © 2023 for materials developed by University of Kentucky Cooperative Extension. This publication may be reproduced in portions or its entirety for educational or nonprofit purposes only. Permitted users shall give credit to the author(s) and include this copyright notice.

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, or physical or mental disability.