



What Is “Extra Virgin” Olive Oil?

“Extra Virgin” is the top grade of olive oil with the following characteristics:

- Must be made from fresh olives - extracted from the fruit solely by mechanical means.
- Fruit must be of high quality, processed soon after harvest, and with clean equipment.
- Temperature during processing can not exceed 86°F (30°C).
- No solvents can be used in the process.
- Must not be mixed with oils made from seeds, nuts, or pomace (milling leftovers).
- Must meet specific standards for over 20 laboratory tests.
- Free fatty acid level can not exceed 0.8% and peroxide value must be < 20 meq O₂.
- Contains naturally occurring antioxidants and polyphenols.
- Must be able to pass a taste test by an International Olive Council (IOC) recognized panel indicating some fruitiness and zero defects.

There are two main types of olive oil on the US market:

1. **Extra Virgin:** the best and most expensive oil. It should have no defects and a flavor of fresh olives.
2. **Olive Oil:** made from defective olive oil that has been refined to remove the defects. This almost tasteless, colorless, and odorless oil is then mixed with a small quantity of extra virgin grade oil to give it some flavor.

Classic Defects That Can Lower an Olive Oil’s Grade

- **Zero Fruity Flavor:** refined or pomace oils are almost tasteless.
- **Fusty:** flavor of oil obtained from olives stored in piles, which have undergone anaerobic fermentation breakdown. Oil made from rotting fruit.
- **Winey-Vinegary:** flavor reminiscent of wine or vinegar (acetic acid, ethyl acetate, and ethanol), due to aerobic fermentation of olives.
- **Musty:** flavor of oils obtained from moldy fruit.
- **Muddy Sediment:** flavor caused by contact with tank sediments.
- **Rancid:** flavor of oils that have undergone oxidative decomposition forming disagreeable odors like varnish, putty, wax, or old salami.

The IOC has established the standard for these two and other grades of olive oil internationally. The grades “olive oil” and “olive pomace” oil contain almost no naturally occurring polyphenols or antioxidants and are the lowest quality olive oil products. They both commonly taste bland and turn rancid quickly. The grade “virgin” olive oil is intermediate in quality. It is not seen in US markets, but is common in Europe and denotes oil that is slightly defective in flavor. The best way to determine if an olive oil is truly extra virgin is to taste a lot of oils and learn about the flavor characteristics of excellent olive oil.

Flavor Characteristics of Extra Virgin Olive Oils

- **Fruity:** having pleasant spicy fruit flavors characteristic of fresh ripe or green olives. Ripe fruit yields oils that are milder, aromatic, buttery, and floral. Green fruit yields oils that are grassy, herbaceous, bitter, and pungent. Fruitiness also varies by the variety of olive.
- **Bitter:** creating a mostly pleasant acrid flavor sensation on the tongue.
- **Pungent:** creating a pleasant burning sensation in the mouth and throat.



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Taste panel evaluating olive oils



The Vocabulary of an Olive Oil Label

A lot of claims are made on olive oil labels. What do these various terms mean and how important are they?

Extra Virgin Olive Oil: As long as the product has not been adulterated with seed or nut oils it is customarily labeled as “extra virgin olive oil” in this country. The other side of this handout describes what makes an olive oil extra virgin, but the US government does not currently test for the presence of refined olive oil, olive pomace oil, or sensory quality according to International Olive Council (IOC) standards. A petition has been filed at the federal level, however, to enforce the IOC standards for “extra virgin” in the US.

Pure Olive Oil: This is refined olive oil (which is odorless and tasteless) that has been flavored with a little extra virgin olive oil. As long as it is not rancid, and the flavoring oil was good, this is a fine product for cooking and any use that does not require a lot of fruity olive oil flavor. It is much less expensive than real extra virgin.

Light Olive Oil: This is essentially the same thing as “pure” olive oil. It is made from refined olive oil that is “light in flavor.” The amount of fat and number of calories are the same as any other olive oil.

Maximum Acidity (or Free Acidity): The free fatty acid level is an indication of the quality of the fruit going into the olive oil. It is a very crude measure of quality, so unfortunately a low free fatty acid level does not automatically translate into good-tasting oil. IOC standards require less than 0.8% free acidity for “extra virgin” classification.

First Cold Press: This is a relic of the days when olive paste was actually pressed between mats to extract the oil (nowadays almost all extraction is done with a centrifuge). The second (hot) press was done to squeeze out more oil from the fermented waste pomace producing a very low quality oil which was then refined or burned in lamps. In Europe, only an oil truly pressed on mats can make this claim.

Harvest Date: Look for recently made oil. Some producers indicate the date when the olives were harvested, others put a “use by” date, which is usually two years after the oil was made. The important thing is to use the oil right away, within a year in most cases; olive oil does not get better with age.

Bottled (or Produced) in Italy: Because of the way the laws are written and enforced, this is not always a reliable indicator that an oil was really made in Italy from Italian olives. Some producers put an indication of the source of the oil (usually Spain, Greece or Tunisia) on the back label. “California Olive Oil”, however, does have meaning: only an oil made from 100% California olives can make that claim.



Seals and Medals: The European system of Designated Origins symbols indicate that an oil was truly produced in a particular region and is typical of that area. The California Olive Oil Council awards a certification seal to California oils that meet IOC standards after being tested by a sensory panel. A number of fairs have olive oil competitions that are judged by trained tasters; these medals are usually a good indicator of a high-quality oil, as long as the year of the award coincides with that specific oil and it was awarded by a reputable organization.