



Do you know what you are eating? Advice from the experts to help you make an informed choice for a quality oil

Biodiversity has always been a characteristic of Mediterranean Europe, blessed with natural products inextricably linked to their regional origins and particular climatic and environmental conditions. A perfect combination of elements that for thousands of years have been providing man with excellent products such as extra virgin olive oils, each with a specific individual identity and unrepeatable attributes that vary according to region.

The jewel in the Mediterranean food crown, olive oil is a matter of pride for our country and this is precisely why it is at great risk of fraud and adulteration. In fact very often, misleading, false labels and brands hide a multitude of sins; namely poor quality olive oils with highly questionable chemical-physical and organoleptic profiles. It is for this reason therefore that scrupulous production procedures and rigid controls are needed, with the aim of guaranteeing that the consumer receives safe, genuine oils and also jealously protecting this precious asset.

Remaining faithful to these guidelines, it is inevitable that two of the top experts in food safety and health protection will be involved, namely Dr. Oscar Luciano Atzori and Dr Elga Bavaria, active within the industry for years, engaged in the production and dissemination of scientific information. They have both made their considerable experience available to draft a genuine identikit for a top-quality extra-virgin olive oil, which can act as a guide when purchasing one. Taste, container, colour, price, inspection methods, examinations, production techniques and processes, all make up the information needed to evaluate and determine what we placed on our tables, thus enriching and refining everybody's personal knowledge and understanding of this authentically excellent agri-food.

- Certain parameters such as flavour, container and storage temperatures can help the consumer understand whether an extra virgin olive oil is of good quality or not.

EVO oil is a superior product obtained directly from the olives using mechanical processes. The nutritional, hygiene-health qualities of extra virgin olive oil depend on the genetic heritage of the olives of origin, method of cultivation, environmental factors (latitude, altitude, temperature, soil, etc.), the maturation and integrity of the olives, extraction techniques and conservation methods (e.g. exposure to unsuitable temperatures and/ or direct sunlight; both being conditions that alter the oil).

The consumer buying oil finds it packaged (often in dark glass bottles or tins), so he can not base his choice on organoleptic factors (odour, colour and flavour) but only on the data shown on the label and the price, which should not be less than 8-10 Euro per bottle.



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It is often better to opt for local oils, having only undergone short journeys to reach sales outlets and therefore probably fewer oxidation stresses. It is good practice to choose DOP and IGP organic products (guarantee genuineness and health), preferably with an extended expiration date, less than 0.8% acidity (expressed as oleic acid; some quality products can also have values less than 0.2%) and displayed in a cool, wholesome environment, away from sources of heat. Further information about the product can also be found on the label. If 100% of the olives come from a single country (e.g. Italy), it is also possible to indicate the year of production and in this case it is always preferable to choose oils from the year just passed rather than previous years.

Oils stored in dark bottles, equipped with anti-tamper closures are always preferable.

- Which flavours should sound the alarm bells and conversely which flavours indicate quality?

The flavours and aromas indicating a quality olive oil (positive attributes) are: bitterness (perceived on the back of the tongue), spiciness (felt in the throat as a kind of sting) and fruitiness. Positive aromas are also those reminiscent of almond, cut grass, artichoke, apple, tomato, tomato leaf (stalk just removed from the fruit) and lemony citrus scents, provided that the after-taste leaves the mouth feeling clean.

Negative sensory flavours and aromas, indicating defects are: **mouldiness** (fungi and yeasts growing in olives stored in damp environments); **rancidity** (oils that have suffered oxidation processes); reheating (oils obtained from stored olives subject to anaerobic fermentation); **mulch** (occurs when the oil has been in contact with its decantation sludge); **metal** (oil that during the productive cycle has remained contact with metallic surfaces for prolonged periods); **wood** or **hay** (specific to oils obtained from dehydrated, dried olives); **cooked** (oils subjected to overheating from high temperatures during extraction); **earth** (muddy, uncleaned olives); and **"worm"** (development of *dacus oleae* larvae).

- What colour indicates a good quality product?

Generally an olive oil is considered to be of quality if it appears transparent, but in actual fact "impurities" remain in an unfiltered oil (especially a "new" oil i.e. of the year just passed) that make it slightly dark, opaque and cloudy. These imperfections are indicative of beneficial health aspects. That being said the colour can be misleading; it varies from straw yellow to a lively, intense green and every olive cultivar characterises the oil both in terms of sensory qualities (flavour) and shades of colour.



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- The container, as well as the method of storing at home, play a negligible role in determining the quality of the oil. Any advice in this regard?

It is good practice to keep the oil in its container, always tightly closed, away from direct heat sources (e.g. sun-rays, heat and water pumps) and light. The storage environment must be fresh and ventilated.

It is advisable to keep the product at a constant temperature, not too low, to avoid freezing. Cooling, in fact, results in separation of particles with precipitation of base substances such as polyphenols, water and others that do not re-solidify thus causing alteration. High temperatures are also damaging as they accelerate oxidation processes. The greatest risk, in addition to heat sources, is from thermal surge that makes the oil "breathe". The optimal storage temperature should be between 10°C and 18°C.

- Another important parameter to trust is the price. Should you be wary of an extra virgin olive oil that costs less than 3 Euro per litre?

Increasingly often, especially in large scale retail distribution, there are olive oils that cost less than 3 Euro and are almost always on special offer.

It is a good idea not to buy these products, since this kind of marketing could disguise poor quality, adulterated oils, or those obtained from olives from countries with inferior hygiene-health controls, or may even conceal unlawful processing techniques like "deodorising", which eliminates the bad odours mentioned above, caused by using unhealthy or badly conserved olives.

The selling price of olive oil should not be less than 8-10 Euro per bottle.

- What are the main pitfalls for the consumer?

The main pitfalls are counterfeits, not knowing how to interpret the information on the labels (e.g. understanding the actual origin of the olives: always check this) and not knowing how to store the oil properly at home.

- How do the food control and safety agencies handle issues such as illegal processing techniques, deodorising practices, use of old, poor quality olives and addition of colourants?

Inspections are frequent across the entire production chain (fields, mills, transport and marketing) and when any risk is detected, the RASFF is activated (Community Rapid Alert System, organised in the form of a network in which the European Commission, EFSA and the Member States of the Union participate; the system notifies, in real time, direct or



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indirect risks to public health associated with the consumption of food or feed). Specific administrative and/ or criminal actions apply according to the type of offence detected.

- In Italy we are protected by rigid rules and controls. Can we say the same about other oil producing countries? Here are a few reflections in this regard

Certainly, within EU countries, it is protected by Community legislation (regulations, directives, etc.), applied equally within the Member States. The same cannot be said for non-EU countries, where norms are often more permissive, with cursory, less stringent inspections.

- How much do the conditions and procedures for harvesting the olives contribute to obtaining a quality olive oil? They are sometimes gathered together into big piles on the ground and crushed after weeks. What do such practices involve and what are the consequences?

Production techniques, from harvesting to marketing, have a lot to do with the quality of an olive oil, being understood as its organoleptic (odour, colour and flavour), nutritive and hygiene-health characteristics. It is for this very reason that it is advisable to purchase **PDO** or **IGP** oil, obtained using production methods that have to follow strict procedures and therefore guarantee the consumer not only extreme goodness and healthiness, but also excellent quality.



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- **Olive oil, when obtained by cold mechanical pressing, should not undergo discolouration, corrective or heating processes.**

For extra virgin olive oil whose acidity, expressed as oleic acid, is not more than 0.8 g per 100 g (i.e. 0.8%), the extraction procedures do not involve subsequent treatments; in fact it is obtained solely by mechanical processes. Any other processes are illegal manipulations, which alter its authenticity and exact classification. These include the addition of refined oils, pomace or seed oils to extra-virgin oils, thus forming compounds that would normally not be present and that can only be detected by analysis.

- **According to the IXÈ 2016 report, 55% of extra virgin olive oil buyers throughout the world read the label. 38% only read it occasionally and 7% never read it. How do we interpret this data and how important is the label on a bottle of olive oil? What do we need to take into account to understand the label correctly?**

A food label is a sort of identity card that allows you to obtain a lot of useful information. It shows the recommended expiry date, the origin of the olives ("produced in ..." or "obtained in ...", "obtained in ... from olives harvested in ..." or "mix of Community/ non-Community olives"), the place where the oil was packaged/ bottled, if the oil is PDO or PGI, if it is organic, conservation methods, the variety of olives used (e.g. mono-cultivar olive oil obtained exclusively from olives ...), if it is "fruity", "sweet", "bitter", "balanced" or "spicy" (terms allowed subsequent to objective evaluation carried out using the method stipulated by the International Oleic Council for the Organoleptic Evaluation of Virgin Olive Oils). Other terms such as "delicate" or "refined" are in use but are not provided for by law, so are adjectives that do not have an objective meaning.

Unfortunately, consumers often buy oil without reading the label and even when they do read it, they do not always understand the information, therefore their choice is based on price and advertising.

- **European DOP and IGP trademarks are invaluable tools for the consumer. What are the guarantees associated with these two letters?**

DOP and IGP olive oils are certainly the best choice, being a guarantee of quality, genuineness and goodness, thanks to the strict disciplines that regulate their production.



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