



## PRESS RELEASE

### **‘GREEN GOLD’ IDENTIKIT: HOW TO IDENTIFY A HIGH QUALITY OIL AND PROTECT IT AGAINST COUNTERFEITING**

Table olives and extra virgin olive oil are two excellent resources, which Mother Nature puts directly into our hands.

#### **The unique characteristics of extra virgin olive oil**

The infinite aromatic notes of extra virgin olive oil (green fruit, grass, flowers, almond, green apple, tomato, etc.) come together to form a matrix of around 200 volatile compounds that combine during the natural extraction process, a mechanical process. Its components include tocopherols and hydrophilic phenols, which come from compounds already present in the olive (hydroxytyrosol and tyrosol) during oil extraction. As well as acting as an antioxidant, protecting the product from oxidative processes, these compounds play a fundamental role in determining the nutritional and health qualities of extra virgin olive oil. Due to its particular composition, extra virgin olive oil has a greater oxidative stability than other vegetable oils, which gives it major advantages compared to alternative products: it oxidises less easily because it is high in low saturated fats (monounsaturates). Furthermore, it absorbs easily because it is high in oleic acid, a monounsaturated fatty acid that resists oxidation during both storage and cooking.

#### **Sensory properties**

But the phenolic compounds also impact the sensory properties, in particular expressing its bitter and spicy qualities that are directly related to their molecular structure. As a result of this relationship between natural antioxidants and bitter and spicy notes, they say that extra virgin olive oils with bitter or spicy accents “are good for your health”. One thing for sure is that both sensory elements and health benefits are directly impacted by the prized quality of the raw material, the olive, by the agricultural conditions and production processes that in the case of extra virgin olive oil are all suitably managed and controlled according to the strictest European standards to achieve high quality products.



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## How to choose an oil

First of all, you need to check the fundamental aspects such as the product's origin and its nutritional information. The designation of origin must be displayed on the labels of extra virgin olive oil and virgin olive oil. This indicates the country of origin, which may be an EU Member State, a non-EU State, or the entire European Union. It can also be represented by a protected designation of origin or a protected geographic indication (PDO or PGI), and in this case must correspond to the specific geographical area where the olives were harvested and the location of the mill from which the olive oil was extracted. If the olives were harvested in a different country from the one where the olive oil mill is located, the designation of origin must include the wording: '(Extra) virgin olive oil obtained in (the Union or the name of the Member State concerned) from olives harvested in (the Union or the name of the Member State or third country concerned)'. From 14 December 2016 it became mandatory to also include a nutrition declaration, which can be inserted and broken down on the back of the label. This information must however be repeated in abbreviated form on the front of the label. However, the mandatory indications do not help the consumer to fully identify all the differences in quality between the various types of oil, but there are several pieces of additional voluntary information that may guide the buyer towards a specific product. This key information includes the acidity, accompanied by other parameters such as the peroxide value (which conveys the oil's potential degree of rancidity), the wax content and the spectrophotometric indices. Another voluntary indication provided in some cases is to state whether the oil is "cold extracted" or "cold pressed". This is not in itself a synonym of high quality: a cold pressed oil from mediocre olives is still a mediocre oil.

## The risk of counterfeiting

In the best case scenario, adulteration involves an oil that could be diluted with another oil from a previous season, now devoid of organoleptic properties or that has turned rancid. Another scenario is that the higher quality oils are diluted with various products from different areas. However, on certain aspects the law protects the consumer, because it provides for the producer's obligation to include the year of production of the final product on the label. The product can therefore also be a blend, but it must always belong to the same oil production period.



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## Quality control measures

To defend their valuable oil heritage, the main producing countries have developed strict control procedures. For example, Italy has established a system of enforcement bodies, including nine different control agencies that act as a concrete deterrent against fraud and adulteration. Local health authorities, the Regional agency for environmental protection, Customs Agency, State Forestry Corps, Central Inspectorate for quality control and fraud prevention, Guardia di Finanza, Carabinieri anti-adulteration and health unit, Carabinieri anti-fraud unit, and test laboratories of the Ministry of Health all bear witness to the reinforced capacity to combat criminal activities, today well defined and sanctioned by specific laws such as “Salva Olio” (Save Oil, the Mongiello Law), in force in Italy since 2013. Every year, the monitoring system put in place in Italy by the Ministry of Health alone carries out an average of around 20,000 controls on food products, and irregularities detected in the oil sector are 13% less compared to other products. “*This system*”, states UNAPROL, the largest organisation for Italian olive oil producers, “*was developed to safeguard consumers and to protect our country’s serious companies, which were suffering damages from commercial practices and misconduct*”.

## DNA testing

Olive oil counterfeits will always be harder to achieve thanks in part to the large-scale application of the DNA testing tool. Returning to the molecular markers of the olives from which the oil originates, it is possible to confirm if products that end up on consumers’ tables are natural and if they really contain what they say they do. In just 12 hours it’s possible to receive an extremely precise response from the DNA testing lab on the contents of the oil analysed.

## Controlling “the production period”

But what can the consumer do immediately to have a better understanding of what they are buying? The consumer needs to pay attention to the information provided on the packaging. If the wording says that the product is from the 2016/2017 oil production period, it is fresh, whereas if this information is not provided, the product could be old or obtained from a blend of oils that come from different years. Always carefully read the wording regarding origin, which is mandatory by law, such as: ‘blend of EU olive oils’; ‘blend of non-EU olive oils’; or ‘blend of EU and non-EU olive oils’. However, unfortunately this is often provided on labels in a very small font that is hard to read.



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