



CONSUMER GUIDELINES ON THE BEST STORAGE CONDITIONS FOR OLIVE OILS AND OLIVE POMACE OILS

Introduction

There are a number of rules and parameters applied internationally that serve to control the quality of edible, commercial olive oils and ensure their correct storage¹. Storing an oil, from the production line to the point of sale, is the responsibility of the producer, distributor and retailer. However, once an oil has been purchased, the responsibility lies with the consumer, who often does not know how to properly store oil, what the major risks of degradation are and why they occur.

One of the biggest threats to the quality of any edible oil is oxidation. The presence of oxygen in the air or finely dispersed in the oil causes the oil to degrade and become rancid. This reaction happens faster if the oil is not properly stored, particularly if it is exposed to light and/or heat. Oxidation produces radicals and oxidation products, some of which can be toxic. Fortunately, some oxidation products are small, volatile molecules that can be detected by olfaction: they give off a particular off-flavour smell, giving rise to the 'rancid' defect. Smell is therefore a useful sensory indicator of oxidation in course.

The speed of oxidation depends on the composition and quality of the oil; the technology used in production; packaging; and the environmental conditions in which the oil was conserved.

Olive oils have a high content of oleic acid (55-83%), a fatty acid known for its nutritional benefits. Oleic acid is particularly resistant to oxidation, which is an interesting advantage found in olive oils and few other vegetable oils. In addition, extra virgin olive oils and virgin olive oils are made up of many healthy substances with antioxidant activity (polyphenolic compounds) which make them even more resistant.

Purpose

The objective of this guide is to give the consumer useful information on storing olive oils and olive pomace oils. Correct storage practices are essential for preserving the original positive characteristics of olive oils and slowing down the oxidation process as much as possible.

¹Best practices guidelines for the storage of olive oils and olive pomace oils for human consumption (COI/BPS/Doc. No 1/ 2018).

Scope

These guidelines are for olive oils and olive pomace oils, but can be applied to all vegetable oils.

Recommendations

- Only purchase as much olive oil as you can feasibly consume in one year. Olive oil is not like wine: it only deteriorates over time. If left for too long, olive oil can oxidise and go rancid, making it inedible and adding to waste.
- The main threat to olive oil quality is light. Store oil in a dark place or protect it with an opaque cover (e.g. aluminium foil), especially if it is contained in a transparent bottle.
- Make sure the oil container is hermetically sealed before opening. Once opened, limit headspace, meaning the space occupied by air in the glass or can, since contact with oxygen accelerates oxidation.
- Buy containers that correspond to 1-3 months of consumption. Alternatively, to limit headspace, transfer oil from big cans (e.g. of 3-5 litres) into smaller, food-grade dark glass, ceramic, or stainless-steel containers and keep them away from light. Avoid iron containers, since iron promotes oxidation.
- Once opened, be sure to properly seal the oil and consume it as quickly as possible (1-3 months after opening).
- The second biggest threat to oil is heat: keep oil away from radiators, burners, or windows.
- Olive oil, in particular extra virgin olive oil and virgin olive oil, can produce a natural sediment when stored. This is not a cause for concern, but it is best to decant an oil in order to maintain its original quality.
- Store oil between 13 and 25 °C.
- Storing an oil at a lower temperature, such as in the refrigerator (around 4 °C), can help prevent oxidation. However, some of the fat and suspended particles (for non-filtered oils) may solidify. Solidification makes crystallised droplets visible as they adhere to the cold glass of the bottle, but this is a reversible process that does not affect the quality of the oil. For unfiltered virgin olive oils, the cold can lead to more suspended particles and therefore reduce the content of polyphenols.
- Any vegetable oil works a bit like a sponge for odorants, so keep olive oil away from paints, detergents, and fumes or vapours generated when cooking, and keep it out of rooms that have problems with mould or that are saturated with smoke, especially when the oil is stored in containers that are inadequately sealed.

Keywords: olive oils, olive pomace oils, storage, shelf-life, oxidation, consumer.