



FILTRATION OF EXTRA VIRGIN AND VIRGIN OLIVE OIL

QUALITY IS THE FINAL OBJECTIVE?

The traditional production of Olive Oil has not changed over the decades. While there are more modern methods of production, offering higher efficiencies and less labour, there are also arguments against and how these modern production methods affect the final quality of the oil.

While the production methods try to produce the very best oil quality, the final product can benefit from, or may require, a final filtration operation.

WHY FILTER?

Olive oil is a complex product. The objectives in the production of a high quality Extra Virgin Olive Oil are to retain all the essential components, including stability and avoid the defects.



Whilst the earlier production stages strive to achieve this, final filtration plays an important part.

Filtration improves the overall quality of the oil by firstly eliminating suspended solids.

These solids give the oil a hazy look and with time form larger sediments that can be seen in the bottom of the bottle. These solids can lead to anaerobic fermentation giving off aromas and higher acidic levels. If the oils are used in frying the solids will burn leading to smoke and off tastes.

The other benefit of filtration is a reduction in moisture content. Moisture in the oil gives a dulling affect and also assists in forming sediments from impurities in the oil.

FILTRATION OPERATION

There are 2 stages of filtration for EVOO. The first is a fine filtration normally used



on oil that has not decanted well or for long enough.

This is to remove fine sediment and can produce oil with a natural hazy appearance. The second stage is a finer, clarifying stage which results in a bright clear oil with a polished appearance.



Typical 40cm filter press with polypropylene

The filtration is specifically chosen not to affect the colour, flavour or consistency (organoleptic properties) or remove any of the healthy properties; namely antioxidants (chlorophyll and carotenoids) as well as the polyphenolic compounds (Tyrosol, Hydrotyrosol and Oleuropein) etc.

1st stage filtration is with Carlson's XE20H filter media. 2nd stage filtration is with Carlson's XE50H filter media.

As a guide we would filter at a rate of 200 to 250l per m² of filter area per hour. For difficult to filter oils we may reduce this rate to 150l per m² per hour.

The standard format for the filter is either a 20cm or a 40cm filter press with the appropriate number of sheets dependant on the volume of oil to be filtered and the time available.

As an example, 20 filter sheets in a 20cm filter press, giving an effective filtration area of 0.72m², operating at 200l per m² per hour would provide an approximate flow rate of 144l per hour. The life of the filter sheet or volume to be filtered through a set of filter sheets cannot be predicted since this will vary dependant on the oil being filtered and by the suspended solids to be filtered out.



Before filtration, Final filtration, After 1st filtration

CONSIDERATION

Please keep in mind that the filtration of Extra Virgin Olive Oil is done as gently as possible so as not to create emulsions. A gentle action pump working at low differential pressures (up to 1.5bar, 2 bar maximum) should be used thus minimising air contact to reduce possible oxidation.

PURITY THROUGH QUALITY™

