

# Detecting olive oil fraud

The adulteration and mislabelling of olive oil products and the substitution of other oils to increase profits has become a major concern in recent years, especially in Italy and Spain, SGS wrote in its June 'Olive Oil Market Review'.

"In 2008, two investigations in Italy uncovered a large-scale scheme to re-label oils from other Mediterranean countries as Italian," the review said. The investigations also discovered systematic adulteration of olive oil with sunflower and soyabean oils, destined to be sold as extra virgin olive oil.

"In 2012, Operation Lucerna in Spain identified fraudulent activity in which blends of cheaper oils, such as palm and sunflower oil, were passed off as olive oil. According to the *Olive Oil Times* (14 February 2013), the scheme 'allegedly involved a complex network of 30 companies from Spain, Italy and Portugal and sales tax evasion of at least €3M'."

Regulated by the International Olive Council (IOC), olive oil must conform to defined quality standards and is subject to the same safety and quality regulations as other food products. The IOC has three different grades of olive oil:

- Extra virgin oil – virgin olive oil that has a free acidity, expressed as oleic acid, of not more than 0.8g per 100g.
- Virgin olive oil – virgin olive oil that has a free acidity, expressed as oleic acid, of not more than 2g per 100g.
- Ordinary virgin olive oil – virgin olive oil that has free acidity, expressed as oleic acid, of not more than 3.3g per 100g.

If olive oil contains more than 3.3g of oleic acid per 100g, the IOC deems it as 'not fit for consumption'.

'Virgin' oil means that the olives have been pressed to extract the oil and no heat or chemicals have been used during the extraction process.

SGS said that in 2013, many olive oils sold as 'extra virgin' were not meeting the rigid standards set forth by the IOC and the US Department of Agriculture (USDA), which uses a different system to categorise olive oils.

"To identify this type of adulteration, testing parameters in COI/T.15/NC no. 3 – in point 3 'Purity Criteria' have been selected to enable the detection of contamination or fraud in the different grades of olive oil," SGS wrote. For example:

- High values of stigmastadienes in an extra virgin olive oil indicates contamination with a refined oil (olive oil, seed oil or kernel oil) or an inappropriate method of extraction for extra virgin olive oil.
- High values of wax, erythrodiol and uvaol indicate that the olive oil has been mixed



THE INTERNATIONAL OLIVE OIL COUNCIL HAS THREE DIFFERENT GRADES OF OLIVE OIL – EXTRA VIRGIN, VIRGIN AND ORDINARY VIRGIN OLIVE OIL

with a kernel olive oil.

- High values of ECN42 and sterol composition indicate that the olive oil has been mixed with a seed oil.
- Methyl and ethyl esters determination has been included to detect deodorised oil in extra virgin olive oil.
- 2-monopalmitate glycerol determination is used for the detection of animal fats and more.

SGS said that its laboratories in Spain and Tunisia could make all these analyses and manage the quality control of large quantities of olive oil supply for clients.

SGS offers inspection, verification, testing and certification services around the world.

■ SGS reported revenue growth of 7.2% to CHF2.9bn (US\$3.2bn) in its half year results announced on 17 July.

"This top-line increase reflects an organic revenue growth of 5% for the period as well as 2.2% in additional revenues from 25 recently acquired companies," the group said.

"In response to deteriorating market conditions, additional restructuring activities have been carried out resulting in one-off expenses of CHF12M (US\$13M). Net profit for the period, including restructuring costs, reached CHF265M (US\$288M), 10% ahead of the prior year."

The group confirmed solid top line growth and improved operating results for the full year.