



LAVENDER | LAVANDIN

I'm confused as to why when I ask for lavender oil I get so many possible options? Everyone tells me it's pure and natural but they have different names, different botanicals and of course hugely different prices, but why?

We know all too well that with any essential oil the market is awash with 'extended oils', 'blended oils', 'reconstituted oils' and then there's 'natural' and 'nature identical' and many many more creative names to consider. As with so many oils you can buy a lavender for as little as \$20 / kilo or pay \$200 /kilo and more for the premium grade material.

To narrow it down to the two main pure oils we see the most in our markets, they are lavender and lavandin, the more common of which are lavender (*lavandula angustifolia*) and lavandin grosso (*lavandula intermedia*).

There are a number of growing areas in the world, from the traditional English lavender, the modern day French and Bulgarian and the often referred to 'special' Australia & New Zealand material. However, commercially we tend to focus today on France, Bulgaria, China and some parts of Eastern Europe and Russia for our regular supplies.

So what's the difference?

PLANTS, CULTIVATION & HARVESTING

Lavender

The life of a lavender plantation is up to 15 years, but this is highly variable depending on the growing conditions, the quality of the soil, the health condition of the lavender plants etc. This is the hardiest and most accommodating species and can survive winter temperatures of – 15°C or even more, but still requires a sunny position and free draining soil.

Lavender does best in a low humidity environment and at higher altitudes. Lavender grown in areas of high humidity is far more prone to fungal diseases. If grown in a more humid environment, plant spacing should be increased, and the plants should be placed in an area with good air movement. However the wider the spacing the more time and difficulties to harvest, as well as taking up more land space.

Lavender grows best in soils that are well-drained, with a pH of between 6 and 8. Much of the world's lavender is grown on stony, calcareous soils with a pH range of 7.5 to 8.5. Research has shown that plant health, longevity, and quality are better in somewhat poorer soils than in soils that are considered to be typically ideal for many other plants.

The first crop is harvested during the second year of cultivation, while maximum productivity is reached in the 3rd or 4th year. Under optimum conditions, the yield will not decrease until the 8th year. Harvesting takes place sometime in July across Europe, depending on local conditions and plant health.

Lavender should never be harvested when wet as this may lead to discolouration and chemical changes within the oil, which can reduce the overall quality. Timing the lavender harvest is critical to oil yields and quality.

During usual summer harvesting conditions, lavender is ready for processing when the flowers start to wilt and the flowering heads and around 6-10cm of the stalk are cut for processing.

Once the flowers are fully blossoming it's important not to expose the plant to any more sun as the heat can dry the oil within the flowers, thus reducing oil yields. The average annual production of lavender oil is 40 kg/ha.

Lavandin

Lavandin itself has a history of different species all with different compositions. The three most common being 'Grosso', 'Abrialis' and 'Super'. In the past the most common was Abrialis but this has evolved over time with 'Grosso' now being the dominant type with over 1,000 MT being produced in France alone each year.

The lavandin plant is a more robust hybrid and grows well at lower altitudes meaning larger plantations on a more commercial scale can be managed successfully. Some of the larger plantations in France are amongst the largest commercial plantations of any essential oils in Europe. Lavandin is mechanically harvested and distilled in much larger volumes than its lavender counterpart. Taking France as an example when we are comparing the economies of harvesting and distilling it's the difference between 1,000 MT of lavandin versus 50 MT of lavender, 50 times larger! These economies bring a more cost effective product.

Many of the same harvesting principles apply to lavandin; as the flowers start to wilt and never harvested when wet. The resulting lavandin oil has a strong herbaceous note and a fresher camphene-cineol like top note, which is likely due to the well-known constituents of 1,8-cineol, camphor and borneol.

PRICES | MARKETS | APPLICATIONS

Lavender Oil

Within our markets the French quality commands a premium, often the higher altitude of the oil the higher the price. Elsewhere Bulgaria has taken the global lead in production with figures in 2013 around 120MT and in 2014 still 80MT despite a bad crop. It's expected the Bulgarian crop will return to 2013 levels in 2015. France produces around 45-50MT, China 40MT and elsewhere in England, Australia and New Zealand a combined 6-7MT.

Today good lavender oil is used for fine fragrances and aromatherapy only as it's not commercially viable for other more commercial applications. There will always be a place in the market for 'True Lavender' as it has to be one of the most traditional, most distinguished and still the most popular odours in the world of fragrance today.

Lavender (Lavandin angustifolia)

Sustainable (5★ very sustainable) ★★★

Price / Value (5★ good value) ★★★

Good time to buy (5★ buy now) ★★★

Lavandin Oil

For many when they smell lavender in products what they actually smell is lavandin. With around 1,400MT produced globally each year (France & Spain the dominant production areas) you are almost guaranteed when you read 'contains lavender' in your application, what you really smell is lavandin.

Prices in the second half of 2014 were around 35% of that of lavender oil (if not less), which gives you a clear understanding why it is more popular and commercially open to more applications. Laundry, personal care and household products use lavandin in multiple of tons. The economies of mass production ensure the stability each year of supply and most importantly (for these applications) price.

Lavandin Grosso (Lavandula intermedia)

Sustainable (5★ very sustainable) ★★★★★

Price / Value (5★ good value) ★★★★★

Good time to buy (5★ buy now) ★★

WHAT ARE YOU BUYING?

Interesting question for the uninformed. There are many industry standards suggesting you're buying something 'real' but the labels like '38/40' or even 'ISO' are meaningless. Frankly speaking, ask anyone who has researched lavender you could drive a bus through the ISO specification these days. Unfortunately these standards don't keep up with today's technology, natural evolutions and experts 'creativity'. You can't even hide behind the massive investment you have in the lab which says 'we have a GC-MS' so we know what we're buying! You need to be able to interpret the results and most importantly look for what shouldn't be there rather than what should be there – a common misunderstanding with many in our markets.

Lavender is the most commonly adulterated essential oil in the market today. Many producers have been pulling the wool over the eyes of the market for years, if not decades but don't worry if you're a victim – most people would have been over the years.



Ultra's lavandin grosso comes from a large-scale plantation in France

Chiral testing and verifying the botanic species are just some of the tips we can suggest to ensure you know what you're buying and try to follow the markets. If after the summer harvests in 2014 you were still buying your real lavender for \$40 /kilo (and that's the price it's always been!) then let that be a clear sign something isn't right. Since 2008 lavender prices have fluctuated dramatically from \$60 /kilo to \$130 /kilo. As with all naturals some movements are expected but lavender has had more than its fair share.

Lavandin is far more consistent in price given the plant's more consistent yields and commercial production. 2014 market prices did vary from €25 early season to €30+ /kilo closed season but this is typical of a product that more and more companies rely on for their lavender notes. Adulteration in such a priced material is far less widespread as the commercial advantages aren't there.

Our tips are, know your supplier, know the market and ensure you have an independent or your own GC analysis, FAME (fatty acid, methyl ester) and chiral tests done on every batch.