



Why is the patchouli market symbolic of the unusual cyclical trends in pricing we face in our industry? It appears that there's never a dull moment when it comes to this product. As a key raw material in the perfumery world it is one product where every buyer needs to take extra care when planning and fixing prices for future formulation costs. So in exploring some of the dynamics surrounding the supply of patchouli we may uncover some details that will help us understand these frequent movements in price, quality and availability.

Indonesia is the world's largest producer of patchouli, accounting for over 80% of the global market. Patchouli is a perennial species that thrives in warm tropical climates. Current annual production volumes are around 1,000-1,200MT with market demand calculated to be around the same. Historically we have associated Java and Sumatra as the key growing regions for this oil but today this is no longer the case and in fact is one of the contributing factors to current availability and quality issues.

Not so many years ago Java and Sumatra would have contributed around 90% of the raw materials used to make each kilo of patchouli oil but today the two regions represent only 20% with Sulawesi now being the primary growing region. This evolution has happened in a relatively short period of time. At the turn of the Millennium and until 2005, 100% of patchouli leaves would have come from Sumatra in the West of Indonesia. In just a few short years, by 2005, Sumatra was only responsible for 20% of all harvests with Java now accounting for 80%. Again this pattern lasted around 5 years and since 2010 until now the balance shift has moved to Sulawesi with almost no raw materials coming from Java.

There is a good reason for this evolution and one we should note will re-occur over time. Patchouli crops cannot be grown on the same patch of land for long periods as certain components and nutrients in the soil, which the plant needs, are depleted over time. Over a five-year period what was once a good growing area will become a bad one so plantations need to be moved to different areas and often to different islands. Over the past 15 years Java and Sumatra have delivered good quality materials that yielded oils with low acid and high





patchouli alcohol (PA) content. Unfortunately, this time the ecological shift has left us with the major producing island (Sulawesi) providing us with below typical standard oil due to high acid values and low PA levels. This is why today we are experiencing quality issues.

*The simple chart illustrates the wide differences in PA and acid values from each growing region over the past 15 years.*

Sulawesi plantations have been established in flatlands close to the sea, where the soil is naturally more acidic but patchouli best grows on hill slopes at around 400-600 meters above sea level. This improves the chances

of good rainfall which patchouli requires. The pressure on Sulawesi, given the market demands, has meant that farmers have resorted to harvesting younger plants, which typically mean lower PA and higher acid values. Over the past year, more plantations have been created to try and provide a better platform for growing patchouli in Sulawesi. It is hoped that these can be allowed to mature longer to improve the overall qualities from this region. That said, whilst the market continues to consume these inferior qualities, there is little encouragement for farmers to stop harvesting under the same conditions. It's hard to see the winner here – nature or the market, as it seems to be neither. The lack of forward thinking by growers along with the nature of market demands have created today's problems, from which it will be hard to recover, certainly in the short term.

So what constitutes a good soil? For patchouli the pH needs to range from 5.5 to 7.5, then patchouli plants require a deep, well-drained, fertile, deep loamy soil, rich in humus and nutrients.

It is possible that in time the soil will replenish the nutrients needed to re-establish plantations in the same area but attempts after 5 years were unsuccessful. There is no research to establish when past growing areas can return to patchouli production but it seems that anything less than 10 years simply will not work.

There are differences in the odour profile of patchouli oil from different islands. Odour is always subjective and a constant battle between buyers and their internal QC teams but an understanding of how nature can change may help convince perfumers and evaluators that sometimes internal standards also need to be updated.

If your company set internal specifications before 2005 you may be finding it hard to meet the odour characteristics with today's fresh batches of patchouli oil. Remember the first rule when it comes to odour, which is patchouli, gets better with age! This is key because as the product matures the odour gets more round and loses some of those harsher green notes. You can achieve this through a simple process of aerating to start the oxidation process. Sometimes this 'ageing' is done at origin before sampling. However, when you review the patchouli odour profiles of the different Indonesian regions, you can see that there is a variance between the Sumatra quality and those from Sulawesi and Java.

Sulawesi: Green. Leafy, Woody

Java: Green, Leafy, Woody

Sumatra: Woody, Musky, Balsamic

As there is currently little material coming from Sumatra replicating this profile can be difficult. As we have already pointed out this area also yields lower acid and high patchouli alcohol levels making this quality not only a difficult option to source, but also the most expensive one!

So we are knee deep into this current cycle where we rely more on Sulawesi and plans are afoot to create newer plantations in 'virgin' areas within Sulawesi but where will be the next region of Indonesia to provide us with this wonderful plant? Who is investigating and investing in this? Will time allow plantations to move back to Java and Sumatra – maybe? As you can see this process never changes and as such will always create times of difficulty and other periods of consistency. The problem for our industry is that we cannot be certain as to what will be next. With supply and demand fairly balanced each year any interruptions in supply or spikes in demand can disrupt the market for a matter of weeks or months depending on the variance swing.

2014 was a typical example of where all these aspects came into play. The year started reasonably stable but supplies slowed and quality drops mid way into the year caused prices to spike. This spike continued for several months and only settled but at higher levels in the third quarter. The year ended with a slightly better balance in supply and demand but prices remained firm, especially for those seeking a higher quality material. The outlook for 2015/16 is that supplies should remain stable but this can always change quickly. If market prices remain fair there is a better balance. If prices rise then farmers plant more, possibly creating over-supply and making prices crash. This is a factor for many naturals in our markets and reminds us all that stability is always better than too many highs and lows.

Keeping all this in mind helps us appreciate that this is not a simple product to start predicting its future and that no matter how big or small your demands are, planning ahead to ensure you have the right quality and quantity is an important and strategic decision for your business.

Source: Perfumer & Flavorist Magazine January Edition 'Natural Product Supply Bulletin', written by Jonpaul Howarth