ESSENTIAL OILS

MARKET REPORT

SUMMER 2020



IN HARMONY WITH NATURE!







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Fanny Bal on Naturals: A New Generation's Perspective





Hello,

As promised, we are back with a fresh cocktail of news from the world of essences and fragrances. However, it is an unfamiliar world that greets us. As we grapple through these uncharted, turbulent waters, I hope this report finds you in good health.

I see difficulties thrust upon local communities, irrespective of country and border. Considering the nature of our work, evidently, work-from-home poses challenges. Consequently, much of the raw material procurement and supply chains have been derailed. Supplies, too are significantly curtailed. But it is in times like these that we realise the critical importance of a reliable and deeply entrenched supply network that is not just the pillar of our industry, but an integral part of the Ultra family. Family who stand by us through thick and thin. It is with heartfelt gratitude that I count our blessings and salute all our suppliers and farmer-partners who have gone that extra mile (while adhering to strict hygiene standards) to fulfil existing orders.

In this sombre period of uncertainty and stress, physical and mental wellbeing assumes utmost importance. You can contribute positively only if you notch up immunity and nurture your wellness quotient. Turn the pages for a refresher on beneficial essences whilst we share updates from the sunny groves of the world.

It is not business as usual, and may not be for some time. Just a few weeks of lockdown have shown how quickly nature did a turn around to heal herself. A new world order is in the offing and this is a wake-up call for humankind. Now, more than ever, we must embrace and weave in sustainability in every step of our soil-to-shelf stories.

Like everyone, I fervently pray for a brighter tomorrow when the social fabric will be restored. Till then, do take care of yourselves and your loved ones. I believe and know that together, with iron-will and positive thought, we will break through the rocky reefs to find calmer, more stable waters. We will emerge stronger and more aware, even as we find our feet on *terra firma*. But we will have to work extra hard to regain what we have lost and as we go along, replenish what we take.

Now that you have some time on your hands, sit back and catch up on what's happening in the world of essential oils. But at all times continue to follow all protocols to keep yourself and your dear ones safe and healthy.

Stay safe,

Priyamvada SanganeriaDirector, Ultra International BV

LEMON OIL

As reported previously, Argentina's 2019/2020 fresh fruit production is estimated to be 1.6 million MT, i.e. 11% lower than the previous crop. This is primarily due to lower cyclical production combined with unfavourable weather conditions, especially high temperatures and the lack of rain in January, February and March. This resulted in a delay in the maturing of lemons and therefore smaller fruits, reducing weight and crop size. This reduction in crop size, together with the newly opened export markets for fresh fruit, will result in a reduction of fruit for processing of approximately 18% to an estimated 1.15 million MT. Annual fresh fruit exports are predicted to grow by 25% to 300,000 MT encouraged by the growth of new markets in India, Vietnam and China, although the EU still takes over two-thirds of fresh exports.

There is no doubt that the outbreak of COVID-19 will have both positive and negative impacts on the sector. The increased demand for vitamin C sources around the world could be beneficial for lemon producers in Argentina. However, supplying the demand could represent a problem in terms of fruit picking and processing due to the social distancing that pickers and processors may have to follow, delaying both the harvesting and processing of fruits. Moreover, the concentration of Argentinian lemon production in the Tucumán region could be a positive, neutral or negative factor depending on the relative regional impact of COVID-19 and when cases peak in Argentina. Nevertheless, the COVID-19 pandemic has added further to the problems being faced by the Argentine economy, which was already in recession and facing reduced international competitiveness as well as major structural problems that have been pushing up production costs.

On a positive note, despite COVID-19, it is hoped that the current season will be less challenging than the previous year. In 2018/2019, heavy rains led to a delay in harvesting while an increase in the global supply of lemons combined with reduced global demand for lemon oil led to a price collapse. As a result, the incomes of growers and processors were substantially reduced and an estimated 130,000 to 140,000 MT of fruit was discarded because it did not meet export standards and was not processed. The gradual increase in prices expected during the 2019/2020 year should create a more favourable market opportunity for Argentinian producers.

■ USD 19.00 /kilo

USDA ESTIMATED LEMON PRODUCTION AND PROCESSING 2016/17 TO 2019/20 ('000 MT)

			2017/18		2018/19		Forecast 2019/20	
Argentina	1,450	1,122	1,770	1,348	1,800	1,410	1,600	1,150
European Union	1,535	284	1,472	232	1,684	253	1,470	224
Turkey	850	40	1,000	50	1,100	50	1,000	50
United States	800	164	806	189	876	238	740	185
South Africa	430	115	446	113	498	135	530	139
Israel	67	4	65	4	68	6	75	4
Other	99	4	91	4	92	6	96	4
Total	5,231	1,733	5,650	1,940	6,118	2,098	5,511	1,756



ORANGE OIL

The new orange crop usually commences in July. This year considering the favourable weather conditions, a normal crop size averaging between 720,000 to 750,000 MT is expected. No stocks remain from last year's harvest and prices are inching upwards from their record lows in the past year. The price increase is reflected in the price of orange juice futures which increased by 25% in just one month, the steepest monthly gain for almost five years.

■ USD 7.00 /kilo

WHITE GRAPEFRUIT OIL

Citrus paradisi 🔞 Argentina

White grapefruit has been on shaky ground. Over the last five years, white grapefruit demand has been on a perpetual decline. This has been a deterrent for farmers to plant this crop. As a result, this has also hindered the addition of new orchards and even the adoption of sophisticated technology for grapefruit production. Prices have been firm and maintained at their steady levels; however, it is increasingly problematic acquiring raw materials.

■ USD 45.00 /kilo



SOWN BY US





TACKLING THE COVID-19 CRISIS A ROADMAP FOR THE ESSENTIAL OILS INDUSTRY

The essential oils market isn't immune and is facing its set of challenges due to the COVID-19 pandemic. The business is looking at leaders in the highest echelons of organisations to come up with suggestions to bring the industry back on track. Ravi Sanganeria, Managing Director of Ultra International Group, sheds some light on the challenges and possible recovery scenarios for the natural oils industry. Ravi sits on the Executive Committee of the International Federation of Essential Oils and Aroma Trades (IFEAT) and is a member of several essential oils regulatory bodies across the globe. Here is a lockdown Q&A with Ravi with regard to the "essentials."

1. What are the difficulties being faced by the industry in light of COVID-19?

Ravi: In a very short space of time within our industry the pandemic has led to major disruptions in the way that products and services are bought, sold, distributed and manufactured throughout the world. We are facing four major challenges – logistics, labour, finance and price fluctuations.

Logistics: This is the most important and severely affected factor. Currently, the movement of ships and cargo is restricted. This has resulted in increased freight costs and longer transportation times. This is a big obstacle for the supply chain.

Labour: Due to the lockdown in several countries, many farmers are not working. This has reduced the production capacity and increased the time required to fulfil supply requirements.

Finance: As a result of the lockdown, factories have been shut, which has made the rotation of capital tricky. Financial difficulties have cropped up, making it a herculean task to even pay salaries and procure raw materials. All the major economies are in deep recession with high and growing unemployment. There is little doubt that some companies in the F&F sector will be unable to survive this on-going crisis. This will add to the severe disruptions in the supply chain as well as lead to more mergers and acquisitions and bankruptcies in the sector.

Price fluctuations: We are expecting massive price fluctuations, due to demand-supply imbalances. I expect increased price volatility to be a long-term problem.

In addition, it is impossible to forget that alongside these economic challenges the COVID-19 pandemic is having an enormous social and human impact throughout the world in terms deaths, illness and numerous disruptions and tragedies caused by the lockdown.



2. Essential oils involve farmers, be it for flavours or fragrances. Going forward, what are the immediate changes needed in the production and processing of these oils?

Ravi: Wherever possible we need to try and support farmers, who are the backbone of the naturals sector. This can take a variety of forms, some of which are more longer term. Alongside endeavouring to ensure that farmers receive adequate and prompt payment for their production, we need to try to assist them in raising their productivity. This can be achieved by raising yields, adopting more efficient and less labour-intensive production techniques, including improved harvesting, storage and processing techniques as well as encouraging them to adopt sustainable production and processing practices, all of which will be vital to their future survival.

3. In the context of supply chains, what are the challenges you are facing currently?

Ravi: Quality control (QC) testing has become a massive issue. We are unable to verify samples in our laboratories. The time taken for testing has also increased with limited staff working in labs. This is an integral part of our business, and we cannot compromise on quality.

Also, as I mentioned earlier, the high freight rates due to limited transport options are delaying deliveries and causing challenges.

The dissemination of accurate information is also turning out to be a challenge. The lack of reliable information is leading to much speculation in the market. And, due to high demand, both existing and new companies want to start or increase output as soon as possible.

4. How can one mitigate these problems?

Ravi: The advantage Ultra has over many others in this situation is that we have stocks in multiple locations alongside excellent reliable staff and contacts working in many regions. Also, greater flexibility, advance planning, and keeping more inventory than usual are some remedies. However, this is not sustainable for all since it requires additional finance. So, companies with greater financial appetite will be at an advantage. But even they will have to go through delays in QC testing, which are unavoidable. On the flip side, it is a risky proposition to hold large stocks at the moment, since price fluctuations are greater.

5. As an international organisation, you have varied involvements in different parts of the world. Could you shed light on challenges specific to varied regions?

Ravi: I'll walk you through the situation location-wise. However, as you are no doubt aware, the complex situation is changing almost on a daily basis. Hopefully, the regions that I discuss will be able to achieve the remarkable turnaround from the pandemic that China appears to have managed – but this is by no means certain.

Europe: Europe is in a tricky position right now. Every country has its set of rules to handle COVID-19, making the business environment confusing. There is no cohesive policy. Europe is also home to many regulatory bodies like REACH. It has raised concerns on how these bodies will function in the future and to what extent their current work will continue.

North America: The vast spread of the pandemic in North America has left many challenges. As in Europe, due to social distancing norms, we are unable to meet customers. New product launches have become an issue. While we are going the virtual route and engaging via video apps, this is an industry that runs on smell and taste. Even conferences like WPC had to be postponed. Trade concerns with China are affecting costing decisions. Plus, there is the distress and uncertainty caused by rising inflation and unemployment.

South East Asia: There is no concrete policy to fight COVID-19 in the region. Singapore has seen a re-emergence of cases. This has reduced the traffic to Singapore port, which is a very important hub for South East Asia. Since the region relies on labour intensive farming, production is slow at the moment.

Australia: Production in Australia hasn't been hit like the rest of the world, in part because they have automated most of their processes. But, the location of Australia means long transit times to major markets. Also, the country was still recovering from one of the worst cases of forest fire and drought, when the coronavirus disaster hit.

6. Do you see a change in demand pattern for essential oils?

Ravi: Absolutely. For instance, certain oils used in the fine fragrance and niche product industry are witnessing a downturn. At the moment, the demand for luxury goods and fine fragrances is low. So, oils like sandalwood, rose, immortelle, vetiver will see a decrease in demand.

On the other hand, the demand for oils with anti-viral and anti-bacterial properties has gone up. Oils with cleansing properties, those used in the scent and care segment, antiseptic, aromatherapy oils, all are seeing a spurt in demand. This means the demand for tea tree, lime, cardamom, orange, lemon, eucalyptus, and nutmeg have all gone up.





7. What action, do you think the industry association can take to motivate the industry participants, farmers, and all employed in the essential oils space?

Ravi: We need to sincerely work on increasing the use of technology to improve communication and the transfer of knowledge to the wide range of stakeholders working throughout the F&F industry supply chains. Since most of our conferences stand postponed at the moment, physical interaction is out of the question. The social interface between industry colleagues was the main charm of these conferences, which unfortunately cannot be achieved online, though we can try webinars for the time being. Hopefully, once the situation improves, we can look at holding events on a smaller scale. Conferences based on geographical locations to connect stakeholders can be looked at, while communication systems can be developed to enable stakeholders to participate who are not physically attending the conference. New business models are being developed to facilitate a fundamental shift in how companies engage with their customers and reach out to new clients. As I mentioned, we are a business that depends on physical senses like smell and taste. I also feel the role of large organisations will be tempered due to the pandemic.

8. In this COVID-19 situation, even if you open the production in a staggered approach, do you think essential oil companies can provide previously maintained stringent quality standards?

Ravi: Maintaining high quality standards is an essential requirement of this industry. Companies have no choice but to adhere to quality requirements. In order to achieve that in the current scenario, longer lead times will be required. But it is imperative that we follow the set protocols.

9. Do you perceive any potential disruptions and innovations in the industry?

Ravi: We need to look at technology in a more aggressive way. Setting up of online trading platforms does feel like a logical step. Also, we have seen great research in artificial intelligence (AI) that can help solve some of the issues relating to smelling sessions, quality control and fluctuating prices. There are AI models being built at this very moment that focus on using current data to predict how a user will react to future similar products. Everything from toxicity and skin sensitisation will be evaluated through these models. This will be a massive push towards automation in the industry.

What we have learnt from this crisis is the need to adapt. I strongly feel that companies should look at procuring products from multiple locations. For instance, lemon oil can be sourced from Argentina, Italy and Spain. This will help mitigate the risk. It will require some changes in planning, but the stock will definitely increase, even if unit costs rise.

There are several factors impacting the overall dynamics of the essential oils market. The exhaustive research and work being done by Ultra provides a possible roadmap to re-establish supply chain links. But it is a longdrawn out process, which puts a massive onus on adopting and transferring technology, automation and the easing of lockdown guidelines across the globe.

A SUSTAINABLE BUSINESS STRATEGY CARES FOR THE PLANET AND HER PEOPLE.



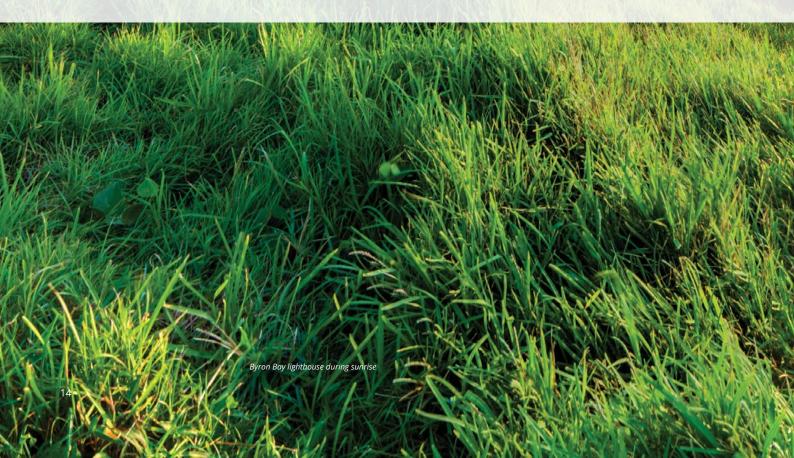




TAKE CARE OF YOUR PLANET.







The drought-impacted anise myrtle production is greatly reduced this year. Prices are tending on the higher side and demand is almost stagnant. The scale of production is humble but producers are endeavouring to augment capacities.

▲ AUD 280.00 /kilo

Australia's signature vivid blue oil obtained from the blue cypress tree has been gaining momentum on the popularity charts. Production and processing facilities have been augmented in order to meet intensifying demand. A stable and reliable supply flow has been established and enabled producers to keep up the annual production. With sufficient stocks of oil available the market is in a good position to meet the requirements.

▲ AUD 450.00 /kilo







BUDDAWOOD OIL

Eremophila mitchellii 🔞 Australia

The raging bushfires of the last six months have impacted the buddawood trees and thereby oil production as well. Now timber collection is ongoing. Production has resumed, but slowly; and supplies are inadequate. Efforts are on by the renowned producers to maintain a steady supply.

▲ AUD 550.00 /kilo

EUCALYPTUS STAIGERIANA OIL

This variant of eucalyptus being recently produced in Australia has been adversely thwarted by last year's drought. Consequently, the forecast for this year's yield is somewhat on the lower side. Efforts are on to add more areas under cultivation since demand has been inching up.

▲ AUD 65.00 /kilo

EUCALYPTUS DIVES OIL

Peppermint eucalyptus is Australia's new kid on the block. Largely affected by the dry weather of the past year, the current production setup distils limited volumes of oil. Demand, on the contrary, seems to be swelling, and so Golden Grove Naturals has begun establishing plantations.

▲ AUD 35.00 /kilo

KUNZEA OIL

Kunzea ambigua 🔞 Australia

Kunzea is wild-harvested and remains relegated to a cottage industry. Production capacity remains limited though efforts are on to increase capacity via sustainable plantations and product standardisation. There are almost no quantities of oil available, though around 100 kg of oil was predicted to come into the market and 2020 was expected to be better. However, with the onset of the pandemic, there is uncertainty and apprehension hovering over the sector.

▲ AUD 420.00 /kilo

EUCALYPTUS HORISTES OIL

Eucalyptus kochii 🔞 Australia

Logistical issues amidst the COVID-19 situation continue to plague producers. Transportation of biomass to the distilleries is running into huge hindrances and this has led to the sharp rise in input expenses, therefore pushing up prices. Crop rotation has resulted in decent crop output.

▲ AUD 30.00 /kilo

LEMON MYRTLE OIL

Backhousia citriodora 🔞 Australia

Several plantations were added last year and are operational. However, most of the producers were favouring processing of the dry leaves that are a favoured ingredient in the culinary industry and attract better margins. Last year several batches of available oil were found to contain synthetic adulterations under the C14 scan. This was a cause for some alarm.

▲ AUD 450.00 /kilo





LEMON-SCENTED TEA TREE OIL

Leptospermum petersonii 🔞 Australia

Australian lemon-scented tea tree oil production operates on an unassuming, modest scale. Efforts are underway to increase output by the addition of new plantations and enhanced volumes of production.

▲ AUD 125.00 /kilo

MANUKA OIL

Leptospermum scoparium Australia

This was one of the crops that was largely unaffected by the bushfires, unseasonal floods, and droughts. New product specifications with +20% b-triketone (MBk) variety have been implemented and so the manuka variety with +25 MBk will cease to be produced. As a result, there are reduced stocks of this variety.

AUD 950.00 - 1150 /kilo

ROSALINA OIL

Melaleuca ericifolia 🔞 Australia

Overall rosalina production is small but GGN is the dominant supplier and continues to successfully establish new plantations. Greater land areas will come online in 2020 but droughts are negatively impacting biomass production.

Australia continues to produce two varieties of rosalina oil; the wild harvested southern rosalina and its counterpart from the northern regions. The northern varieties have an increased linalool component and decreased cineole and the reverse is the case for the southern sourced varieties. 2020 early production was seriously hampered by arid weather conditions perpetuated by droughts of 2019. Biomass procurement continues to be a hurdle in the face of the pandemic.

▲ AUD 320.00 /kilo

SANDALWOOD N. QUEENSLAND

Though this is widely considered a weed in pastoral Australia, production continues steadily to meet demand. Last year producers faced difficulty in procuring supplies of wood and entered into a wood-harvesting agreement. The wood is wild-harvested and new harvest was anticipated to come in by early 2020. Now with the COVID-19 situation things are rather uncertain.

■ USD 1050.00 /kilo

SANDALWOOD OIL VANUATU

On-going endeavours will eventually see improved and standardised grades of sandalwood Vanuatu available in the market. Though supply meets current demand, production was set to increase this year. At present despite the pandemic, there is a small quantity of oil held by producers.

■ USD 1900.00 /kilo

SANDALWOOD W. AUSTRALIA

Santalum spicatum ② Australia

Sandalwood WA commands steady demand matched by stable supply. There were ambitious plans to step up production in 2020 but there is a lot of insecurity due to the coronavirus pandemic.

L USD 1350.00 /kilo



TEA TREE OIL

Melaleuca alternifolia 🔞 Australia

The Australian tea tree industry has been plagued by a plethora of problems throughout the year. Radical weather fluctuations and periodic droughts have thrown forecasts off track. Erratic weather patterns have led to some of the most ruthless bushfires recorded in modern history, leaving extensive damage in their wake. Vast stretches of arable land, livestock, wildlife, and homes were razed to the ground. Subsequently, incessant squalls in February propelled extensive flooding, leading to abject damage in some unfortunate farms. It was contained in most of the others. Following this, the trees were infested by a plague of pyrgo beetle. Though tea tree is rather resilient and was spared significant damage during the bushfires, it was a stressful 2019, which gave way to an unusual 2020. Expectations of a strong crop were washed away; production levels plummeted by a marked 40% compared to the previous year.

The new year had raised hopes for better performance. Keen appraisals of crop prediction for this year pegs the figure close to 750 MT, with a leeway of around 50 MT more or less. Golden Grove Naturals is well into the 2020 production season having commenced harvest early this year to meet customer demand and avoid early winter frosts. The industry was just getting back on its feet when the pandemic broke out. Despite a surge in demand during the COVID-19 outbreak, this year's crop estimate hovers at par with the average for the past four years. In anticipation of inflated demand in the COVID-19 crisis, several farms have pre-booked orders with their clients in recent weeks. However, stocks are limited, since there are zero carryover stocks that can be utilised to support supply for this heightened demand.

▲ AUD 75.00 /kilo

WHITE CYPRESS OIL

There is about 100 to 500 kg of oil available though producers are in the process of augmenting capacities for annual production. Unfortunately, the demand for this oil has somewhat declined.

▲ Price on Request







FANNY BAL ON NATURALS A NEW GENERATION'S PERSPECTIVE

Eddie Bulliqi

Summary: A deep dive into the mind of one of the industry's most promising young perfumers – her relationship with naturals, how she's using them, and why they should be celebrated.



With over 36 perfumes catalogued in the Fragrantica database, all made within the last four years, young perfumer Fanny Bal is increasingly establishing herself as an efficacious, talented and influential force both within the industry and on retail shelves. Starting her training in chemistry at the Université de Lyon, followed by the Université de Versailles and Institut Supérieur International du Parfum, de la Cosmétique et de l'Aromatique Alimentaire her big break came at International Flavors and Fragrances through the great aptitude she demonstrated as the apprentice to venerable perfumer Dominique Ropion. Today, she is part of a cohort of elite perfumers tackling projects for both the world's biggest brands as well as experimental briefs that allow her creative enthusiasm to blossom.

With an olfactory appetite rooted in the love of everyday smells, and a mind set on innovation, this interview meanders through her current thoughts on naturals.



Eddie Bulliqi [EB]: What is your own relationship to natural oils?

Fanny Bal [FB]: They're a great source of inspiration because of their incredible complexity; each natural essential oil or absolute is a perfume formula in itself, as it contains hundreds of individual ingredients. Because of their complexity, they have as many facets as a perfumer wants to imagine, allowing me to fashion them at will, to emphasise each time a different facet.

EB: What if we didn't have naturals – what would we lose in culture and in perfumery?

FB: First, a reminder: what we call modern perfumery, which started at the end of the 19th century with the Guerlain, Chanel, and Patou perfumes, was made possible by the combination of contemporary distillation and extraction techniques to obtain natural essences, alongside the development of organic chemistry to synthesise some key molecules - the aldehydes and the coumarin, for instance. If we lost naturals we would lose their magical complexity. It would be impossible to fully replicate the olfactive multi-dimensional profiles of our naturals with synthetics.

EB: Do you think that perfumers who have lived and had most of their formative experiences in cities possess a different angle on naturals than the traditional Grasse-born heritage perfumers? Is the city-dwelling perfumer at an advantage or disadvantage?

FB: I don't think it's an advantage or a disadvantage. Each perfumery student comes with their own culture and background, and learns to own each of the ingredients of the perfumery palette through their own sensitivity, memories, and culture. It's neither a negative nor a positive, it's just a different point of view.

EB: What are your favourite natural themes and why?

FB: I love flowers, and floral themes. For instance, for one single ingredient like rose we have close to 10 different essences, which each smell different and allow for a different interpretation of the many rose facets, some like fresh rose petals in a rose garden, others more animalic, green, with artichoke-like notes (yes, artichokes!); others again smell more fruity and animalic. All of these different expressions of flowers explain why I love working with them so much; I feel like there's no end to discovering new olfactive aspects.



EB: For future compositions, which naturals are currently inspiring you and what type of scent structures are you using them in?

FB: Flowers are my constant theme of inspiration. They can be both the easiest ingredients because they're so familiar, but that's also what makes them so difficult; it's hard to create florals which haven't already been imagined by perfumers in the past. My personal challenge would be, for instance, to create a masculine orange flower and uncover new facets of this highly traditional but beautiful ingredient. In Frédéric Malle's Cologne Indélébile, I focused on orange flower with tons of musks to make it genderless and skin-soft.

EB: What about improving nature? Are there any natural materials that sometimes get in your way and you wish you had this aspect tipped and tucked?

FB: Some frustrating flowers are what we call "mute flowers": they smell gorgeous but cannot be naturally extracted, like lily of the valley, freesia, gardenia, honeysuckle and many others. To have access to a lily of the valley note, a perfumer must act like an impressionist painter, recreating their own interpretation of the flower. I love the smell of lily of the valley – green, fresh, dewy, floral and crystalline. It would have been amazing if nature had made this flower a little bit more generous to us perfumers, and if it had allowed us to extract it fully!

EB: Do you prefer using naturals with simpler profiles that you can build up like individual music notes, or already orchestral, complex oils that require careful implementation and tempering?

FB: I like both; the expertise of a perfumer is to find in a formula the perfect balance, and the best way to harmonise both simple and complex naturals to make them all stand out for their own beauty, and for each to have their own reason to be there.

EB: The industry push towards artificial intelligence in the past two years is quite remarkable. An awkward question for you – do you think AI is more or less likely to choose natural materials to fulfil brand goals than a human? Can AI be in love with naturals like we are?

FB: I'm not afraid of AI. I believe it can be like Waze (the GPS) for a perfumer. As a driver, are you afraid of Waze? AI can allow perfumers to get guidance from the algorithm, when needed, particularly for very new ingredients, to understand faster how to use them; or to think completely out of the box, with combinations we wouldn't necessarily have thought of.



EB: When selecting your oils, what are the most important factors for you? Ethical sourcing? A surprising odour profile? A best-in-class biochemical skeleton?

FB: My first criterion will be its odour profile, of course. Sustainability is also always at the core of everything we do, selecting oils of ethical sourcing that have a positive impact on the environment and the communities we interact with around the world.

EB: Emotional storytelling with scent has never been more important than it is today – do you believe you can captivate and entrance consumers' emotions more with naturalistic accords that people are very familiar with from daily life, or do you find that it's the unusual and never-smelled-before olfactory ideas that excite you and your clients the most?

FB: I love to develop scents out of the familiar realm, to bring new olfactive emotions and sensations. I'm an absolute addict for pastry and spend a big portion of my free time either tasting pastry or baking it. I find pastry to be extremely connected to my job as a perfumer: it requires a similar kind of precision, and perfect command of ingredients, and hundreds of trials to get to the right balance. It's a constant source of inspiration, both already very familiar but always capable of bringing unexpected flavours, too.

EB: Another enthralling aspect of the naturals story is the people behind them – do you have any anecdotes you'd like to share about the people involved in the naturals industry that you've met over your career so far?

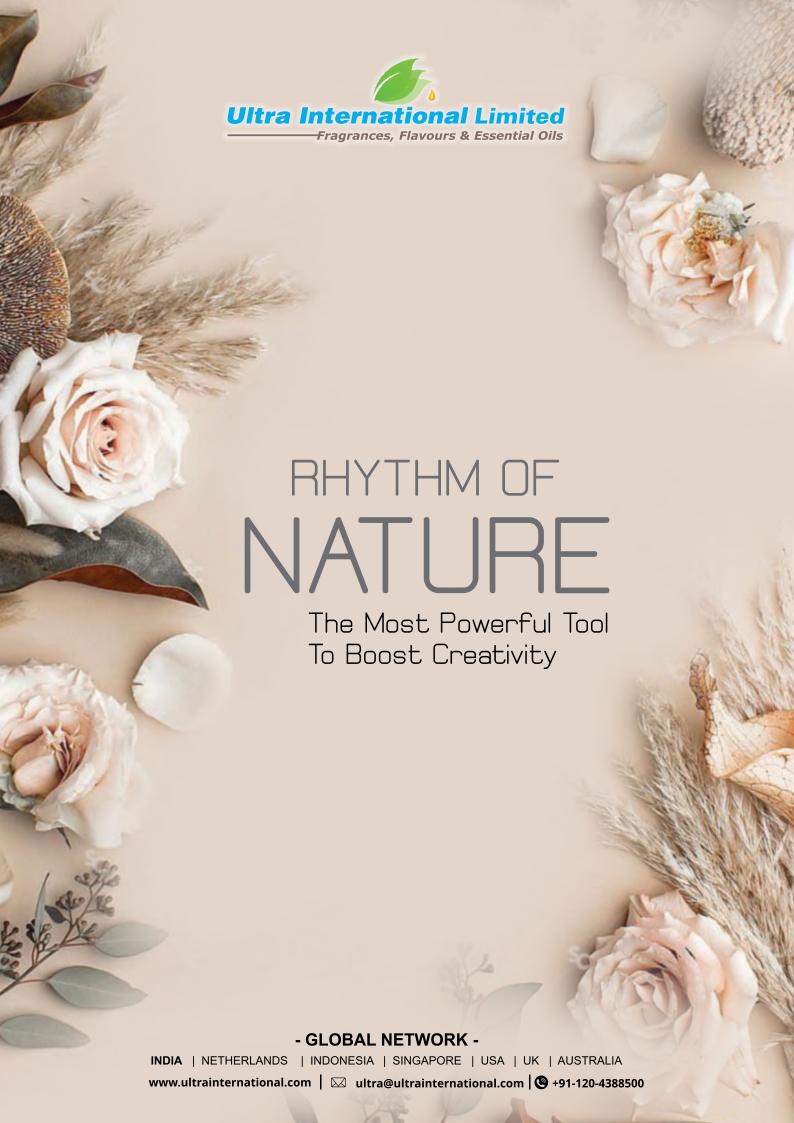
FB: Last year, I was lucky to go to Turkey with a customer, during the rose harvest. When I entered our plant in Isparta, I went into the room where they store the freshly cut roses before putting them in the distillation stills. I was blown away by the intensity of the smell. It smelled like fresh rose, a uniquely intoxicating scent which I had only imagined until then. Seeing the pickers in the field, picking each flower as if each was a precious diamond, was a particularly moving moment.

EB: What is your hope for naturals in the future?

FB: I'm looking forward to the future possibilities nature has yet to offer: discovering new botanicals for perfumery, discovering techniques which will allow us to extract lily of the valley.

EB: Lastly, what's one naturals-based accord you're currently working on that's really exciting you?

FB: I'm currently finalising a creative "carte blanche" exercise we conduct every year, called the Speed Smelling, which is sold to consumers in a collectible box with the creations of all Paris perfumers. This year, it's called Slow Smelling, to entice perfume users to take time to indulge. My Slow Smelling note for this year is an accord around lentisque a very green herbaceous resinous note, and vetiver from Haiti, a beautiful quality which has refined the heart of the essence to focus on its fresher grapefruit aspects.







ORANGE OIL

Brazil's total orange production for the new 2020/2021 crop, starting in July, is expected to be 22% lower than the current crop ending in June 2020. It is estimated at around 370 million boxes (15.1 million MT) compared with the final forecast for the current season of 475 million boxes (19.4 million MT) for all production regions in Brazil. This estimated decrease is mainly a result of alternate bearing (discussed below) and weather-related problems such as warmer than usual temperatures and below average rainfall after the first two blossoms and fruit set in São Paulo State, the dominant growing area.

The latest Fundecitrus report released in early May confirms a reduction of 25.6% for the 2020/2021 crop to 287.76 compared to the previous crop of 386.79 million boxes. This forecast is for the São Paulo and West-Southwest Minas Gerais citrus belt, which accounts for approximately three-quarters of Brazilian production. The expected 287.76 million boxes include:

- 45.53 million boxes of Hamlin, Westin and Rubi
- 13.05 million boxes of Valencia Americana, Seleta and Pineapple
- 87.04 million boxes of Pera Rio
- 106.16 million boxes of Valencia and Valencia Folha Murcha
- 35.98 million boxes of Natal

Some 85% of production will come from the first and second blooms, while 12% and 8%, respectively, will come from the third and fourth blooms.

Apart from the adverse weather conditions affecting the crop, this season is also experiencing a significant reduction in the number of fruits per trees compared to that in the previous crop. This is due to the large production in the last season which increased the consumption of nutrient reserves in plants. As a result of this phenomenon, known as alternate bearing, average yield is estimated to drop to 790 boxes per hectare and 1.65 boxes per tree, compared to 1,045 boxes per hectare and 2.22 boxes per tree last season. The average drop rate of oranges is projected to be 17%, slightly higher than previous seasons. This projected increase is mainly due to the increased intensity of citrus greening.



With this reduction in total orange production, fresh fruit consumption is predicted to fall while the amount of oranges for processing is also expected to drop 95 million boxes (3.9 million MT) to 254 million boxes (10.4 million MT). With fewer oranges for processing then production of orange oil, terpenes and juice will decline. Production of CPOO (cold pressed orange oil) is predicted to fall from 42,000 MT in 2019/2020 to 31,000 MT in 2020/2021 while CPOO exports are forecast to rise 31,000 MT to 41,000 MT during the same period, leading to a significant reduction in inventories. Similarly, during the period, d'limonene production is forecast to fall from 34,000 MT to 25,000 MT while d'limonene exports are predicted to fall by a similar amount from 34,000 MT to 24,000 MT. On the positive side, this increase in demand, together with the expected lower crop, is likely to push prices up after the significant decrease in 2019 when the industry experienced record historical low prices for orange oil and terpenes.

In addition, processing may be delayed by two to three months and yields and quality affected by multi-blossoming. Orange juice production is expected to drop 25% to around 24.3 million boxes (992,000 MT). Even though exports of orange juice are forecasted 27% lower, Brazil remains the largest producer and is expected to account for over three-quarters of global exports with slightly higher consumption and stocks.

The outbreak of COVID-19 is generating both positive and negative impacts on the industry with an outcome hard to predict. Global demand for fresh oranges, for example, has increased due to their high content of vitamin C, but has also decreased due to restaurants, schools and food services being closed. Meanwhile labour availability throughout the supply chain is likely to fall as people are affected by the virus and possible lockdown. In addition, there are some reported issues relating to plant maintenance and the availability of spare parts and equipment. At the national level, the volatility of the Brazilian real combined with political instability are adding to the sector's problems

■ USD 7.00 /kilo

USDA ESTIMATED ORANGE PRODUCTION AND PROCESSING 2016/17 TO 2019/20 (MILLION MT)

	2016/17		2017/18		2018/19		Forecas	Forecast 2019/20	
Countries	Production	Processing	Production	Processing	Production	Processing	Production	Processing	
Brazil	20,890	16,116	15,953	10,975	19,380	14,239	15,100	10,365	
United States	4,616	3,001	3,560	2,010	4,833	3,332	4,898	3,357	
Mexico	4,630	2,100	4,737	1,900	4,389	1,950	4,417	1,955	
European Union	6,739	1,491	6,270	1,154	6,506	1,249	5,840	1,045	
China	7,000	580	7,300	570	7,200	590	7,300	600	
Argentina	700	273	750	375	800	376	720	350	
Egypt	3,000	100	3,120	100	3,600	360	3,000	300	
South Africa	1,363	123	1,586	240	1,500	299	1,560	238	
Costa Rica	322	238	315	232	295	216	310	230	
Australia	480	60	525	108	510	90	500	190	
Total	49,740	24,082	44,116	1,7664	49,013	22,701	43,645	18,630	





LAVENDER OIL

Lavandula angustifolia 🔞 Bulgaria

Farmers are contemplating quitting lavender plantations for more lucrative crops. There are limited transactions happening in the Bulgarian market. Superior quality lavender oil is hardly available in the market. These dealings could be the result of unsold crop from last season. COVID-19 is not expected to have a significant impact on the supply, but it is too early to evaluate.

▲ EURO 65.00 /kilo

ROSE OIL

Rosa damascena 🕓 Bulgaria

The COVID-19 crisis is expected to hit the rose crop harvest. This is primarily due to the restrictions imposed by the government. In Bulgaria, movement of labour is an issue. More than two people are not allowed in the same car, and most of the labour force that pick roses are confined to their villages. Preparations for harvest are on, as forecast predicts the flowering season to begin mid-May, the time this report was being prepared. The government is aware of the issues and everyone is keeping tabs on developments. At present, it is difficult to predict the price fluctuations in the market. No one is certain whether unsold quantities from 2019 will remain in stock till the new crop harvest.

■ EURO 6250.00 /kilo

BALSAM FIR OIL ORGANIC

Amidst the coronavirus crisis, Canadian balsam fir oil has witnessed a sudden surge in demand owing to its established anti-microbial activity. In the global markets the oil is being used in a variety of germ-protection products and there are several international takers for the oil. Production has been stepped up to meet the spurt on demand.

Price on Request

PINE OIL WHITE ORGANIC

Pinus strobus 🔞 Canada

It is challenging to produce large volumes of this. Supplies are restricted and prices are escalating.

A Price on Request

CEDAR LEAF OIL

Thuja occidentalis ② Canada

This oil is quite a favourite in the perfumery business. It seems that a decrease in demand is imminent in the coming months, as perfumers are expected to buy less than usual. Currently, limited stocks of the oil are available in the market. Production is halted but is expected to resume by June. Prices are stable at the moment but forecasts predict a marginal reduction in price if demand decreases.

Price on Request

SPRUCE OIL WHITE ORGANIC

Picea glauca ② Canada

Production of the Canadian spruce oil white organic remains constant but holds potential to easily augment current quantities.

Price on Request

While the world battles the coronavirus crisis, the situation in China has mostly been brought under control. There were issues in production during the first quarter and supply was affected for most oils, but production has been normalised now, though transportation has become an issue in the region. Due to the pandemic several ports and routes were shut down by shipping companies. This has increased the time for transportation.

CASSIA OIL

While harvest for crude cassia was undertaken in April as planned, the distillation has been delayed by a month. The weather conditions in May will primarily decide the output of the spring oil crop.

■ USD 38.00 /kilo

CITRONELLA OIL

Cymbopogon winterianus 🕓 China

The demand for Chinese citronella oil has seen a massive decline, which has resulted in prices falling drastically. This is a result of the low price of Indonesian oil in the market.

The output for citronella oil is expected to decline further this year. Farmers have been unenthusiastic about distilling given the downward trend in crude oil prices. The strict control imposed by the forestry sector over fire prevention outdoors has also had a role to play.

■ USD 16.00 /kilo

ESTIMATED PRODUCTION OF CITRONELLA OIL



EUCALYPTUS OIL

The market for eucalyptus oil is in the phase of slow recovery. While at present the market is down, there is a slight upward movement. Farmers are less enthusiastic about distilling and selling crude oil. Factories are also not interested in stocking large quantities of the product because of the uncertain situation due to COVID-19. The government has adopted strict measures in order to prevent forest fires. In this scenario, most dealers have adopted a wait-and-watch attitude.

■ USD 15.00 /kilo

ESTIMATED PRODUCTION OF EUCALYPTUS OIL



GINGER OIL

China is expected to see a constant rise in the ginger oil price, due to multiple factors. Firstly, deficit rainfall has seriously damaged the crop. Also, considering the low price fetched by the crop, plantations have been reduced by 20%. Lastly, there is a heavy demand for the product in the spice market.

■ USD 75.00 /kilo



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LITSEA CUBEBA OIL

Litsea cubeba 🕓 China

There is hardly any carryover crop from the last harvest, thus the market price has been firm. The current crop season has passed and the new supply of oil will only be available post July.

Price on Request

GERANIUM OIL

A sudden spurt in demand has led to farmers increasing the oil price. Besides these rare fluctuations, the market for geranium oil has been relatively stable in the last couple of years. The new season this year is expected to begin around August.

L USD 144.00 /kilo

NATURAL WINTERGREEN OIL

There is a short supply in the market, and a price rise is expected in the near future. With the containment of the virus in China, several factories are purchasing raw material to fulfil previous orders.

L USD 42.00 /kilo



AMYRIS OIL

Amyris balsamifera ② Dominican Republic

With major dealers facing an inventory crunch, the supply of amyris oil is expected to be hit even after the coronavirus crisis is dealt with. It has been over a month that distilleries for amyris oil have been shut down due to the lockdown imposed by the government. Food is being supplied to help the workforce affected by this closure and layoffs. But an extended lockdown can lead to social unrest in the country with a vast portion of the population belonging to the lowest economic strata.

As far as the Dominican Republic is concerned, arrangements are being made to resume production as soon as the situation improves. Security arrangements ranging from 4-metre walls and barbed wire are expected to keep vandals away from production facilities.

■ USD 65.00 /kilo





CUMIN OIL

Egypt witnessed an immensely successful cumin crop last year; and this year too is expected to be an encore of the last season. Production was up last year, and going by weather conditions, farmers are hopeful for another bumper production. This will have a buoyant effect on current steady prices.

■ USD 121.00 /kilo

GERANIUM OIL

Around 60 to 70 MT of oil is waiting to be purchased. However, geranium is facing obstacles in mobilising ready stocks as it is solely a cash-led trade, and the government has enforced a clampdown on cash transactions amidst the COVID-19 situation. Procurement of raw material too is another hindrance that is exerting pressure on existing buffer stocks of oil held by distillers. In addition, the new season scheduled to commence from June, will put more quantities of oil on the market.

L USD 101.00 /kilo

JASMINE OIL

Amidst the COVID-19 pandemic, Egypt has decided to truncate the usual four-month jasmine production season. Traditionally, the jasmine crop has always exceeded demand and producers have ended up with surplus stock. The shortened season will ensure that the existing supplies are consumed and excess is avoided.

L USD 3080.00 /kilo

NEROLI OIL

Citrus aurantium 🔞 Egypt

There seems to be some encouraging news on this front with crop estimates at 1.5 MT. The improved figures are a result of farmers and producers partnering to select good quality raw material and streamlining quantities. The collaboration has shown positive results and this year's crop is anticipated to better the past few years' production.

■ USD 3190.00 /kilo

ORANGE OIL

Citrus sinensis

Egypt

The weather played spoilsport with gusty winds and unusually high temperatures which affected flowering and fruit sets. Production is set to plunge 17% to 3.0 million MT. Egypt is a strong global player in the orange trade and, despite the pandemic, exports are pegged at 1.5 million MT albeit with a 200,000 MT decrease owing to reduced supplies of orange.

Price on Request

PETITGRAIN MANDARIN OIL



This year the prices of this oil fell. Despite scaled down production this year, there are surplus volumes of oil available. This is the key contributing factor for the reduction in prices. Producers are hoping for an increase in demand in 2021, which is expected to push up prices again.

■ USD 55.00 /kilo







CLARY SAGE OIL

Salvia sclarea 🔞 France

Unfavourable weather conditions have led to a poor harvest in 2019. Despite that operators are faced with large unsold quantities. This is primarily due to the overproduction of clary sage in recent years. The market did not absorb the produced quantities, and buffer stocks kept building up. Even today the demand for clary sage is relatively low.

▲ EURO 120.00 /kilo

LAVANDIN GROSSO OIL

Lavandula hybrida var. grosso 🕓 France

The global demand for lavandin essential oil is quite high. The price of lavandin grosso post the 2019 harvest was considered very high. As a result, very few transactions took place. Currently orders are being placed for antiseptic products. This is not expected to have an effect on the market in the short term. But there are several industries in the sector which have been hit by the slowdown

Currently there is a fall in the price of lavandin but even at these prices few transactions are taking place. Generally, buyers rely on their stocks and wait for the market price to stabilise. Time will tell whether the prices will drop further or will stabilise as many buyers seem to be running out of stock.

■ EURO 25.00 /kilo

LAVENDER OIL

Lavandula angustifolia 🔞 France

The French lavender market faces stiff competition from Bulgaria. The world's largest producer of lavender, Bulgaria accounted for 500-600 MT of lavender production in 2019. But the decline in demand from the United States has hit Bulgaria. To offset this and avoid importing intermediaries, producers in Bulgaria are establishing direct contacts with European and American users. There are no indicators to suggest that Bulgaria has seen a downward production trend in 2020. But, the advantage of French essential oils is their superior quality. The current production price is also comparable to previous seasons. Consumption has not been able to match expectations and demand has been at a stable volume.

L EURO 145.00 /kilo

FRENCH ORGANIC OILS

N/A 😯 France

The increase in price of non-labelled oils has offset the income generated by the production of organic essential oils. Otherwise the market for organic lavender and organic lavandin is a balanced one in terms of production and demand as opposed to the conventional one. Also, there has been a steady rise in the market for organic essential oils. So, in the event of a downward trend in price, it will be felt less on the organic produce. Thus, it is not reasonable to re-evaluate organic essentials with respect to the current trends.



Stocks of basil have gone down, resulting in a price rise. There is a heavy demand for the oil due to its application in herbal sanitising.

■ USD 23.50 /kilo



GINGER GRASS OIL

Stock carried over from earlier produce is still available. Thus, the market scenario is ambiguous and the situation will get clear once the lockdown is lifted.

■ USD 49.00 /kilo

LEMONGRASS OIL

Cymbopogon citratus

Lemongrass oil witnessed low production and arrival in the market. This resulted in a high and constant increase in the price of the product, before the COVID-19 crisis brought everything to a halt.

■ USD 20.50 /kilo





MENTHA ARVENSIS OIL

Multiple issues are being faced in the production of *M. arvensis* oil due to the lockdown. While fertiliser and pesticide shops have been opened by the government, the situation on the ground is tricky. Farmers are not able to carry on their operations as they generally do. The availability of labour is also an issue. In the current scenario farmers are unable to sell their produce, which is increasing the financial strain on them. It will take some time to evaluate the impact of the lockdown on the production of the crop.

India follows a two-step approach for *M. arvensis* planting. Before the commencement of nationwide lockdown, the crop progress was on schedule. The first part of the process, root sowing, was complete. The second one is transplantation. The impact of lockdown cannot be ruled out at the moment.

Once the lockdown is lifted, heavy demand for the product can be expected. Most customers have run out of stock, and there is no supply from the secondary market, China, as well. Immediate shipments will be requested by customers, once transportation options are available. Currently physical trading has come to a halt, but MCX (the commodities trading platform) is still on. The volume being traded on MCX is low, but a massive spike in price can be witnessed in the spot market.

In the long term, price will stabilise and come down primarily due to a fall in demand as the world economy shrinks. Also, a temporary ban on the production of chewing gum and mouth freshener will reduce the demand for the product.

L USD 19.75 /kilo

PEPPERMINT OIL

Mentha piperita 🔞 India

A 10% price rise can be expected for pure peppermint in 2020. This is because of multiple factors. Firstly, farmers are unlikely to undertake peppermint farming this year. Secondly, the carryover stock from last season is also limited. Due to travel restrictions, it is not possible to analyse the real scenario in terms of crop output. Only time will tell the impact of low demand vs less production of peppermint in India. Though there could be a few deterrents to a price rise. The competitive price being offered by American peppermint could keep the price of Indian peppermint in check. Also, there will be various products with synthetic impurities and cornmint oil available at a lower price in the market.

■ USD 39.5 /kilo

PALMAROSA OIL

Cymbopogon martini 🔾 India

Once the lockdown is lifted, the price trend will be determined by the demand for the oil. Earlier, till the lockdown was enforced, the demand and supply for palmarosa oil was balanced. This resulted in a low price for the product.

L USD 27.75 /kilo



SPEARMINT OIL

Farmers are facing challenges due to the COVID-19 crisis. There has been a massive decline in the planting of spearmint. This is expected to result in a price rise. Synthetic I-carvone will have a role to play as well. The spearmint crop is also facing similar challenges as the peppermint and *M. arvensis* crops. Due to the decrease in production, prices are expected to increase.

■ USD 31.75 /kilo



SANDALWOOD OIL

Santalum album ③ India

All existing and current demands for the oil will have to go through mass rescheduling. Due to the COVID-19 crisis, production of the oil has halted. Even when it is resumed, logistical issues will make the fulfilling of orders a massive challenge.

L USD 21.50 /kilo



VETIVER OIL

Vetiveria zizanoides 🕝 India

The global scenario for the oil remains more or less the same. But imports in India are expected to witness a rise in price until the economy sees a resurgence. This is also the harvesting season for vetiver, which has been affected by the pandemic. Luckily the output will not be affected by late harvesting. Though once normality resumes, the demand and supply gap will be felt.

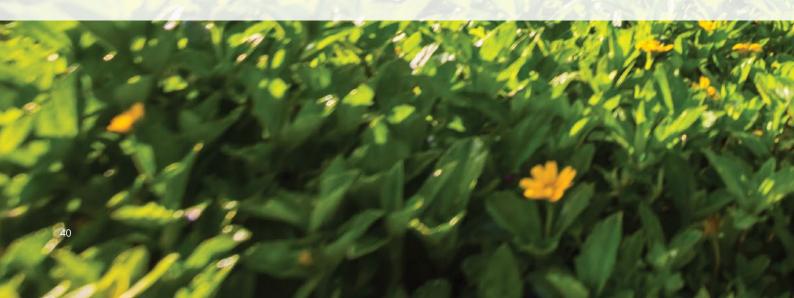
■ USD 310.00 /kilo







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Like the rest of the world, even Indonesia has been affected by the COVID-19 pandemic. But the region is also facing some unique issues. The holy month of Ramadan witnesses mass movement of people from tier 1 and 2 cities to their hometowns. But this year the exercise was halted due to the state of emergency declared by the central government. People are no longer allowed to move in Indonesia for non-economic activity. Local transportation of naturals will suffer, because large quantities are produced in various regions like Sulawesi and Sumatra. As far as exports are concerned, limited flight options and partial operations at the airport in the capital have rendered international airfreight unviable. Sea freight remains the most consistent and reliable option currently. Luckily for Indonesia, its geography consists of thousands of small islands, due to which movement of people is limited, and the spread of virus has been very slow. The densely populated capital regions of Java and Sumatra have been the worst hit. Even though regions like Sulawesi, Kalimantan, and Bali have reported cases, they have been limited in number.



CITRONELLA OIL

Sufficient supply is available to meet current demand, but the oil prices have hit rock bottom. Apart from existing sources in Sumatra and Java, Van Aroma is confident of securing Sulawesi as a big contributor of citronella oil. The associations with large F&F companies and partnerships with farmers in Sulawesi have been highly beneficial. The heavy production of citronella in the past 12 months in Indonesia has catapulted the country to be the leading producer of the oil globally. China and India now trail Indonesia in the global market.

L USD 14.00 - 19.00 /kilo



CLOVE OIL

Eugenia caryophyllata 🔞 Indonesia

There has been a sudden spurt in the demand for clove oil. In the near future, the price of clove oil and its derivatives could stabilise. On the other hand, the production of the oil is almost non-existent at the moment. Due to the rains it is very difficult to procure dry leaves and stems for distillation. Most distillers don't have a stock of clove leaves and stems, which has halted production. The dry season is still two months away. Distilling is only expected to resume post Ramadan, which ends around May 24th. Exports are currently relying on feedstock accumulated in recent times by producers and exporters.

L USD 11.50 - 18.90 /kilo



NUTMEG OIL

Numerous reports of adulteration with substances like phthalates, higher methyl eugenol, higher safrole have been reported in the supply of nutmeg oils. While this is a massive area of concern, rigorous quality control procedures have helped in identifying the problem and ensured that users are safe from any contaminations. Prices could move on an upward trend as there is an increase in demand for this product in the flavour industry.

▲ USD 70.00 /kilo



PATCHOULI OIL

Pogostemon cablin 🔞 Indonesia

Most major exporters of patchouli oils are based in Java and Sumatra, even though Sulawesi is one of the biggest producers of the oil. Considering the issues being faced for inland and interisland transport, the availability of oils from these regions will be delayed. Thus, they will not hit the market anytime soon. Most exporters of the oil have forward booking. On the production front, the volumes are expected to be in line or slightly less than in the last few years. In this scenario, price reduction is unlikely. If there is a deflection in price, it will be in the range of 4-8% depending on the forecast. As far as harvest is concerned, the new crop will be harvested beginning mid-June to July. Regular rains in the producing areas are a boon for the crop. Small scale harvesting has already commenced in certain areas, and it should hit the peak in about 1.5-2 months.

L USD 55.00 - 64.00 /kilo



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According to certain published reports, China saw a decline of 18 percent in carbon emissions between early February and mid-March. This led to an estimated 250 million metric tonne fall in carbon-related pollution from China, which is the world's biggest contributor to carbon emissions. It is being estimated that the European Union (EU) too will witness about a 400 million metric tonne fall in carbon emissions, due to decreased industrial activity and power consumption.

These numbers are remarkable and go on to show the unadulterated plundering of the environment we do on a regular basis. However, this isn't a long-term solution, but a rude jolt of reality. If we continue to look at China as a case in point, industries are commencing operations slowly, but steadily. And we can already witness a rebound in emissions, thus diminishing any hope that the short-lived decline will cause even a dent in the mountain called climate change.

So, what is it that the entire episode of nature's personal healing taught us? It has given us proof, if we ever needed it, that we are abusing our environment to limits which will be impossible to come back from. The word SUSTAINABILITY has been the centre of strategy conversation for a while, but this situation puts it into prime focus. Now more than ever, we need to sustain the bend of economies towards a greener and climate friendly direction with investments in low-carbon infrastructure and building efficiency. The way of working, as we knew it, will have a drastic change and overnight evolution. We need to come out of this crisis in a better position, there simply is no choice here.

The only way to achieve this target is a collective approach. Sustainability is a ship that can't reach the shore unless every sail is hoisted properly. For the essential oils industry, every participant in the process needs to undertake sustainable practices to ensure a healthy relationship with the environment. This is even more crucial for our industry, because, for essential oils, it is not only about sustainable production practices, it is as much about conservation of plants. Flora and fauna, after all, form the core of this business. Thus, this is an extensive sustainability exercise that requires everyone, from farmers to distilleries to distributors, to companies procuring the products, and consumers using them, to play an active role to effect change.



Let us start at the base of the food chain. Farmers are the most crucial element in this cycle and often the most neglected. Going forward, every stakeholder must ensure adequate working conditions in farms for the success of this model. Proper working standards must be followed, social distancing, along with suitable support for sustainable farming practices. A major part of essential oil farming happens in developing economies, and thus, this a crucial step that cannot be ignored. Farmers in these countries need assistance and guidance to progress on a sustainable path. Organic substitutes for pesticides and herbicides should be made available. At the same time they also need to be educated in the advantages of organic farming. Unless they understand and witness the advantages, there will always be a danger of relapse towards chemical ways.

The next step is the reduction of carbon footprint. Like other domains, technology can play a massive part in this quest for the essential oil industry too. For a while now, advancements in resource recovery and waste recycling have shown good results. Research in developing environment-friendly products, innovative extraction methods, and alternatives to rare plant species are also in the works.

While we are on the sourcing side of essential oils another factor that needs to be considered is partnerships with local communities. Investing and developing local markets for the sale of products is a healthy exercise. If we partner with local suppliers, NGOs, associations or other initiatives, they will aid the growth of the farming community and in turn the region.

But one of toughest calls, still, in the entire cycle is concern of over-harvesting. Essential oils are highly concentrated products and large quantities of plants go into meeting the demand. There is a delicate balance between fulfilling demand and preserving the environment that needs to be maintained here. One of the first steps to ensure healthy harvesting practices is the transparent dissemination of information amongst all concerned parties. This will lead to more responsible practices, while sourcing essential oils. The next crucial factor concerns the mechanism that is adopted to procure these treasured products. Whether it is wild harvesting or controlled environment harvesting, there are clear guidelines that one needs to follow.



First and foremost, wild harvesting is not encouraged because of the limited supply in nature. While it may be the easier option, it should never be done at the cost of the species. Even if one was to go for wild harvesting, the stipulated rate of harvesting is less than 5% of the population of the particular plant. These numbers are sacrosanct and need to be respected to ensure the survival of the plant species. As far as controlled environment harvesting is concerned, concentrating on plants that are indigenous to the region, and giving soil enough time to replenish, are important factors to consider. For the industry to survive and receive continuous and quality supply of essential oils, we need to support agro-forestry.

The sustainability circle cannot be complete without an active participation from the consumer. Considering a drop of essential oil is the result of numerous plants, the wise usage of the product becomes important.

As a rapidly growing market the essential oils industry is responsible for numerous livelihoods, businesses, and consumers. But with this growth comes the burden of leading by example, and not letting its core element – THE ENVIRONMENT - suffer. Sustainability is a team exercise and all players need to perform their tasks with 100 percent commitment to emerge victorious. It will require time, planning, and the willingness to give up short term goals for long term benefits. But it is certainly not an impossible task. We have been making consistent progress on this front with the aid of our partners and technical advances.

We witness the planet making an attempt to heal. It is happening organically due to the unfortunate circumstances and we are compelled to learn from the current trend. The steps we take today will define the way the planet reacts tomorrow. A conscious decision to adopt sustainable practices is the need of the hour. Since we cannot survive alone in this vast ocean, we need to join hands in the quest to save our planet.



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Italy is among the first European nations to be severely struck by COVID-19. The country has been in lockdown since March 8, 2020. Sicily, one of the primary growing areas has been declared, like the rest of the country, in a 'State of Crisis'. The entire agricultural sector and its supply chains have been grossly impacted. Lockdown restriction has impacted raw material procurement and supply, packing, warehousing, shipment, deliveries. Amidst all this, fresh fruit markets are enjoying growth in demand but facing an unprecedented drop in fresh fruit deliveries.

BLOOD ORANGE OIL

News from this crop is rather upsetting. Farmers were already struggling with a meagre crop due to erratic weather conditions, clocking a production of below minus 80% of usual output. With the coronavirus spreading fast, there is a dearth of workers for harvesting. Though everyone was waiting for the lockdown to re-open, it is next to impossible to revive the blood orange crop.

■ EURO 7.5.00 /kilo

YUZU OIL

Citrus junos 🔞 Japan

The production of yuzu is not expected to be impacted by the COVID-19 crisis. No cases have been reported in the yuzu production facility at the moment. All necessary precautions are being taken at the facility. In fact, vigilance has increased after a few positive cases were confirmed in the Kochi prefecture.



GRAPEFRUIT OIL

Augmenting the growing areas, combined with ideal weather, has resulted in a flourishing of grapefruit. Mexico's production is forecast to be 3% higher at 468,000 MT. Consumption and exports are expected to keep up with the increase in production.

. USD White 55.00 /kilo

LIME OIL

The two best known varieties of limes are *Citrus aurantifolia*, normally called Key lime, and *Citrus latifolia*, normally called Persian lime. About 52% of lime production in Mexico is Persian and 48% is the Key variety and approximately 15% to 20% of the total Mexican lime production is processed to produce lime oil. The primary product of Key lime is the distilled oil for use in beverages, while for Persian lime it is the cold expressed oil and juice.

Mexico's 2019-2020 lime production is forecast to increase slightly to 2.422 million tonnes thanks to improved yields. An estimated 395,000 MT will be processed. While some drought conditions during late 2019 affected the main crop from Michoacán, where the production season has already finished in February, leading to a shortfall in fruit volumes of Key limes and firm prices, prices are expected to soften around the peak of the Colima season which started in April and will continue until September/October. So, at the moment Key lime oil supply is tight but should improve by June with fruit volumes for processing returning to normal levels. While the beginning of 2020 has been good for processors with an increased demand of Key lime oil, the fresh fruit market has also continued to be firm. However, the outbreak of COVID-19 represents a challenge for the fresh fruit market since restaurants, bars and food services are closed due to the lockdown in most countries.

As a result of shortfalls in 2019 and smaller fruits than the previous year, fruit prices for the Persian variety were high. As a consequence, in order to have expressed oil to offer in the market, this year processors have been processing what they could from smaller bloom. Therefore, there are challenges ahead but there is positive expectation of better weather resulting in multiple blooms.

LISD 38.00 /kilo (Distilled), USD 53.00/ kilo (CP Type A), USD USD 57.00 /kilo (CP Type B)

LIME PRODUCTION AND PROCESSING 2017/18 TO 2019/20 ('000 MT)

2017/18		201	2018/19		Forecast 2019/20		
2,311	396	2,401	397	2,422	395		

ORANGE OIL

Recent annual Mexican orange production has been of the order of 4.2 million MT of which 1.9 million MT are processed. However, severe drought conditions in mid 2019 have led to forecast production in the current crop year falling by approximately 50%. This is likely to create severe problems along the supply chain. Processing will fall by at least 50% and probably more since the fresh fruit market invariably takes precedence. Assuming an average oil yield of 2.6 kg per 1,000 kg of fresh fruit, and some 1.0 million MT are processed, this points to production of 2,600 MT of cold pressed orange oil and 820 MT of d'limonene. In addition, in comparison to previous years there is likely to be lower juice ratios and aldehydes than normal.

. USD 7.00 /kilo

With the complete lockdown in Morocco, businesses are working at 50% capacity. Reduced working hours and rotational shifts are being followed. The lockdown has been going on for a month and has further been extended by another month.





ROSEMARY OIL

Rosmarinus officinalis Morocco

It is difficult to source raw material due to the restrictions imposed on movement. Since production has stopped completely, the carry prices are no longer firm.

■ USD 65.00 /kilo

BLUE TANSY OIL

Farmers have stopped all planting of blue tansy. Thus, no new crop can be expected in 2020. The only available supply is the one carried forward from the last harvest.

▲ EURO 167.00 /kilo

Similar to the rest of the world, the economy in Nepal is in a slump. It has been over a month that the country is in lockdown and uncertainty looms large as to how long it will continue. The situation is tense and overall production of essential oils is estimated to go down significantly.

SPIKENARD OIL

The Nepal government has recently lifted the ban on spikenard production. However, it will be some time before producers are able to establish proper channels and the new batches of oil are released into the market.

Price on Request

WINTERGREEN OIL

So far, there are adequate supplies of wintergreen oil in the market. This is primarily due to the fact that the plant is seasonal and most of the oil production takes place during the months of October and November.

▲ EURO 105.00 /kilo

With the on-going spread of the virus, it is difficult to pinpoint the exact effects of the corona situation on the essential oils sector. Though production lines are running as usual, procurement of raw materials is the biggest hurdle and international shipments are more difficult. Producers are not negating the possibility of international shipments altogether, but in the current circumstances, it seems an uphill task.





GUAIACWOOD OIL

Bulnesia sarmientoi 🔞 Paraguay

Trading for this oil is currently at a standstill. The market for this year is yet to be opened though prices are at consistently steady levels. It has been reported that the EU's Scientific Research Group has issued a negative opinion on guaiacwood and as a result no EU import permits have been issued. It is hoped that this situation can be resolved before too long.

Price on Request

CABREUVA OIL

There are limited stocks of oil available. Material is rather scarce and prices are stable.

■ USD 45.5.00 /kilo



LIME OIL

Peru is primarily a domestic consumption market. Almost 50% of the total production is earmarked for processing while the remainder is channelled to the fresh fruit market. The harsh winter in northern regions has significantly impacted the crop with revised estimates suggesting a production drop of 20%. Most of the producers had to push back their dates and had to commence processing operations only from mid-January. With demand continuing to be as healthy as ever processors are grappling with the challenge of meeting requirements with a deficient crop. Naturally, the quantities for export have also fallen considerably.

■ USD 37.00 /kilo

CORIANDER SEED OIL

Uncertainty over inventory and delays in supply is a major concern among buyers due to the COVID-19 crisis.

There has been a downward trend in the production and export of coriander oil for the last two years. The numbers are significantly lower from the corresponding ones between 2015 and 2017. With a push towards sustainability, Russian distillers are not making the mistake of over production. Distillers are now working on reducing the price gap between origin and EU sellers. High price of seeds and significant oil production costs halted distillation at origin in 2019. Certain EU sellers have stock available, but most customers have covered their demand requirements until the summer. December 2019 recorded the lowest price. Since then, demand picked up in the first quarter, while stocks went down. This has resulted in a steady increase in price since January. The new batch of Russian crop will only be available after six months. Thus, the increase in price will continue for some time.

■ USD 55.00 /kilo

GRAPEFRUIT OIL

Citrus paradisi 🔞 South Africa

Grapefruit production has escalated by 8% to touch 420,000 MT, with an estimated 124,000 MT processed. The weather has been good for the plants, consumption has increased significantly, and demand is to be driven by the higher supplies.

LSD 18.50 /kilo (Pink), USD 46.00 /kilo (White)

ORANGE OIL

Good weather, additional areas of plantation, and robust demand augurs well for the South African orange crop. Production estimates are 1.6 million MT, a marginal climb of 4%. Accounting for around a quarter of the world's trade, exports are forecast to be at 1.3 million MT.

Margarian Land Marga



LEMON OIL

Citrus limon (L.) Burm. F. South Africa

With the weather being a strong ally, the South Africa lemon forecast has increased by 6% to a high of 530,000 MT of which an estimated 130,000 MT will be processed. Another key contributor is the full blooming of existing plants and the increased area of cultivation added last year.

■ USD 14.00 /kilo

ROSE GERANIUM OIL

Pelargonium roseum South Africa

A 5 hectare plantation has been established in the Hoedspruit region in Limpopo for production of rose geranium. With around 230,000 plants, this plantation has adopted organic farming practices and also houses a small, 500 kg capacity distilling unit.

Price on Request





LAVANDIN OILS

The lavandins are on a growth path with demand growing over the last few years. Spain has increased its areas of planting to match growing demand. Spring has brought abundant rainfall and this is good news for farmers. The harvest forecasts are also encouraging. The social distancing norms and lockdown of the COVID-19 situation has made working in the fields, and maintenance work a challenge. Prices are going down at the moment.

▲ EURO 25.00 /kilo

SPIKE LAVENDER OIL

Lavendula latifolia 🔞 Spain

Spike lavender is extensively cultivated in certain parts of Spain. The market is in a state of stagnation, though of late there has been a marginal upward movement in demand. There is no increase in planting areas but production volumes are significant and there are sufficient quantities of oil available in the market.

■ EURO 49.00 /kilo

LEMON OIL

So far, unlike its Latin American competitors, the COVID-19 pandemic has had a relatively smaller impact on the EU's 2019/20 citrus harvest, since it arrived towards the end of the harvesting campaign. According to recent EU Commission data, the total citrus crop in 2019-2020 is estimated at 6.2 million MT, which is 5% below the 2018-2019 level, in part because of lower yields. Moreover, it has recently been reported that rising consumer demand for both fresh oranges and orange juice, as consumers look for sources of vitamin C, has led to a sharp increase in retail sales, which has more than offset the drop in foodservice demand. However, both EU fresh orange imports and exports have fallen, mainly because of logistical difficulties.

AlLIMPO forecasts a 22% reduction in the 2019-2020 lemon crop due to unfavourable weather in Spain and Storm Gloria in January destroying about 80% of the citrus crop in Valencia. The latest data forecast a total production of 1.02 million MT, compared with 2018-2019 which reached the record figure of 1.3 million MT.

It is expected that demand will be activated for Fino lemons from February onwards. For the Verna variety, Spain is returning to production levels similar to those of 2017, with a total harvest forecast of 290,000 MT, which will allow Spain to consolidate its position as a leading supplier in Europe for conventional and organic fruit in April to June, with quality, sustainable and excellent service lemons. The strong fruit demand and the smaller crop size has led to increased fruit prices, which will adjust the number of lemons available for processing.

As Spanish consumers look for additional sources of vitamin C and healthy nutrients, so domestic demand for citrus products has increased. At the end of April, it was reported that this growing demand combined with an estimated 20% fall in Spanish citrus production has led to a normalisation of Spanish citrus prices from mid-April. The sector argues that it has sufficient supplies available to satisfy domestic markets. The plummeting prices of 2019 led to major protests, right up to the COVID-19 crisis, against low commodity prices and imports, especially from South Africa. At the end of March, the Agriculture Minister announced that fresh produce farmers are receiving higher prices following a pledged revision of prices along the Spanish food supply chain.

■ EURO 18.00 /kilo

LEMON PRODUCTION 2018/19 COMPARED WITH 2019/20 (MT)

Variety	Total Crop 2018/19	Forecast 2019/20 Crop	% Difference 2019-20 vs 2018-19
Fino	918,000	730,000	-20%
Verna	382,000	290,000	-24%
TOTAL	1,300,000	1,020,000	-22%

BLACK PEPPER OIL

Sri Lankan black pepper offers high oil content and high levels of piperine. Since there are no adverse climate conditions, a stable crop is predicted for the season, which began at the end of April. The price is not expected to fluctuate.

■ USD 46.00 /kilo

CINNAMON OIL

Cinnamomum zeylanicum

Major price fluctuations are not expected in the market. At present the cinnamon leaf oil price is slightly high because last season's stock is being traded. Once the new season commences, the price will stabilise. On the supply side, no variations are expected. With light showers predicted in the coming weeks, cinnamon peeling will commence. Rains aid the process of peeling from the bark.

Lambda USD 295.00 /kilo (Bark) Lambda USD 28.00 /kilo (Leaf)

CLOVE OIL

Eugenia caryophyllata



The price for clove is stable with no spike expected in the near future. The last harvest season for clove began in December and ended in March. Since then supply has been stable.

■ USD 61.00 /kilo

CITRONELLA OIL

Cymbopogon winterianus 🔞 Sri Lanka

At present the supply of citronella is stable. But, due to the impact of the coronavirus outbreak in China, the supply of citronella from Sri Lanka will increase. The demand for the oil has also gone up. Anticipating this rise in demand, farmers have increased the price of raw materials. Over the next few months the situation is expected to normalise with prices returning to stable levels.

■ USD 29.00 /kilo

NUTMEG OIL

The floods in Kerala in India destroyed most of the nutmeg crop. Thus, attention shifted to the crop in Sri Lanka. The nutmeg season has begun in Sri Lanka and currently supply is stable, but the shortfall due to lack of supply from India will increase the price of the product. Sri Lankan nutmeg has high content of sabinene and low amounts of safrole.

■ USD 49.00 /kilo



LEMON OIL

In Turkey, which annually produces approximately 1.0 million MT of lemons, the COVID-19 pandemic has led to the rapid expansion of domestic demand for lemons for use both as a source of vitamin C and in the production of cologne, which is used as an alcohol-based disinfectant in many aspects of life. As a result, the government has imposed an export ban on lemons until the end of August in order to try to reduce the price spike following the start of the pandemic.

Price on Request

The current situation has resulted in an immense amount of market volatility in terms of all the citruses, especially the speciality variants like blood oranges, Cara Cara navels, and Valencia oranges, which appear to be adversely affected. The initial period witnessed healthy sales but soon lost momentum as retail outlets started limiting the SKUs (stock keeping unit) in face of shortages. A consortium of growers and producers has joined hands in an appeal to the government for economic relief.

The world has undergone a drastic transformation with the onset of COVID-19. It is a very difficult situation to be in. On the one hand, the global demand for fresh fruit and fruit juices has jumped by leaps and bounds due to their enriched vitamin C profile. On the other hand, demand has been impacted with the closure of restaurants, schools, and food service industries. In some growing areas despite the fruit being ready for harvest, it is not being harvested due to the unavailability of pickers owing to lockdown. Global orange production is forecast to fall by 5.8 million MT as climatic factors led to decreased crop sizes in several important growing areas.

CEDARWOOD OIL TEXAS

Juniperus mexicana 🕓 USA

Cedarwood oil by virtue of its powerful antimicrobial property is classified as an 'essential commodity' in the state of Texas. It is widely used as a disinfectant and natural agricultural pesticide. As a result, distillation and distribution were allowed to continue albeit with strict precautions. One of the producers suffered major damage last year due to a fire. Oil supplies have been strained ever since. Work is underway to resume distillation at the earliest while orders are pouring in and there is pressure to meet the current demand.

■ USD 22.5.00 /kilo

CEDARWOOD OIL VIRGINIA

Juniperus virginiana 🔞 USA

The world's total cedarwood supply is dominated by two of the largest distillers in the USA. The current pandemic situation has exerted extreme pressure on supply chains. Raw material deliveries are affected and the present stocks of ingredients are not adequate to run the factories on full production cycles.

Price on Request



GRAPEFRUIT OIL

Florida's grapefruit production forecast for the 2019-2020 season decreased in May to 4.9 million boxes, but still above the 2018-2019 crop. The white grapefruit forecast was also lowered to 800,000 boxes, while the red grapefruit forecast was lowered 200,000 boxes to 4.1 million boxes. California's grapefruit forecast increased from 4.1 to 4.3 million boxes, while Texas saw a decline from 6.2 to 5.8 million boxes. Therefore, the total USA grapefruit crop is expected to be 15.0 million boxes, a 2.0% decrease from the forecast in the previous report. However, this still represents a higher crop than the previous season resulting in more fruits for processing. Having said that, processors are still facing a challenge. While demand for grapefruit oil white is firm, demand for grapefruit oil red has decreased mainly due to re-listing or reformulations after years of short supply due to greening and hurricanes.

According to the citrus growing associations, COVID-19 has had a dramatic impact on the sector since mid-March as grapefruit and grapefruit juice movement and sales have come to a dramatic halt as schools, restaurants and retail outlets have either closed or severely limited entrance to stores, and buyers are now cancelling orders. Over the past decade the trend in grapefruit juice prices has been downward and if there is further downward pressure then some processors may find it unprofitable to continue processing. The grapefruit season should be complete shortly and better estimates of the actual losses incurred will become available.

■ USD Pink 25.00 / White 45.00 /kilo

USDA ESTIMATED GRAPEFRUIT PRODUCTION 2017/18 TO 2019/20 ('000 BOXES)

Crop & State	Production 2017/18	Production 2018/19	Forecast Production 2019/20
Florida - All	3,880	4,510	5,200
Red	3,180	3,740	4,300
White	700	770	900
California	3,800	4,100	4,300
Texas	4,800	6,100	5,800
USA Total	12,480	14,710	15,300

LEMON OIL

California dominates US lemon production, with the USDA forecasting Californian production in 2019-2020 of 21 million boxes out of US production of 22.9 million boxes, Arizona accounting for the remainder. This represents a 9% fall in output compared with 2018-2019.

The unique growing conditions of the Ventura coastal region of California have resulted in producing lemons of a distinctive size that primarily supplies the food service sector. The USA also imports increasing quantities of lemons, which in 2019-2020 were predicted to slightly exceed domestic production. Traditionally over half of production goes to the food service sector but this has been badly impacted by the COVID-19 pandemic and in April lemon growers were reported to be losing between \$4 - \$5 million per week as food sector sales fell considerably. More lemons will now be available for processing, which in recent years were approximately equal to a quarter of domestic production.

In early April the citrus growers of California, Florida and Texas requested support from the USDA arguing "We have reason to believe that based upon damages to date that the immediate COVID-19 impact to certain varieties of citrus will be over \$200 million dollars. The citrus industry impacts have varied greatly by region and variety. To date, the biggest challenges we are seeing across the industry are due the shutdown of schools and restaurants. Additional movement in the retail sector have not compensated for losses in food service for lemons, grapefruit juice, and most specialty varieties, and it is too early to tell what the net impact will be for orange juice."

L USD 35.00 /kilo

ORANGE OIL

Total USA orange production in 2019-20 is expected to be 120.45 million boxes. If realised, this will be around 4% less than last season's final production. The forecast for non-Valencia oranges (early, midseason and navel varieties) in all USA production regions is 71.45 million boxes. This breaks down with Florida's production at 29.45 million boxes, with its harvest over for this season, California's production remaining at 40 million boxes and Texas dropping to 1.8 million boxes. Regarding Valencia oranges, the forecast is a total of 49 million boxes, with Florida dropping 1.45 million boxes from the previous season to 40 million boxes, California remaining at 8.5 million boxes and Texas decreasing from 610,000 to 500,000 boxes.

With regards to fruit size, non-Valencia oranges remain unchanged from last report, requiring 316 pieces to fill a 90-pound box. Valencia oranges' size, however, is considerably below average, requiring 252 pieces to fill a 90-pound box. Moreover, final droppage, at 30%, is close to the maximum.

Due to the outbreak of COVID-19 the demand for fresh orange and orange juice by consumers has increased because of their high vitamin C content, being a way of trying to stay healthy during the current pandemic. According to the Florida Department of Citrus (FDOC) Economic and Market Research Department, USA orange juice sales increased by 46 percent for the four-week period ending April 11. However, according to the citrus growers' associations in the three major states, speciality varieties such as blood oranges, Cara Cara navels, Valencia oranges and gold nuggets have suffered reduced sales due to COVID-19. While demand initially increased in the retail sector, the shutdown of restaurants and schools has impacted negatively. As discussed above the US citrus growers have requested support from the government.

■ USD 7.00 /kilo

ESTIMATED ORANGE PRODUCTION 2015/16 TO 2019/20 (MILLIONS OF 40.8 KG BOXES)

Unit million of 40.8 kg boxes	2015/16	2016/17	2017/18	2018/19	Forecast 2019/20
Florida	81.70	68.85	0.45	71.85	70.00
California	58.50	48.30	0.44	51.40	48.50
Texas	1.69	1.37	0.02	2.50	2.30
TOTAL	141.89	118.52	91.13	125.75	120.80

Harvesting and transportation was affected for a while due to the precautions being taken to stem the spread of coronavirus. But, by and large, COVID-19 has not had a significant impact on the production, harvesting, and growing of basil and cassia oils. The government has done a great job to stem the spread of the virus, and most social distancing norms will be lifted in low risk cities.

BASIL OIL

Dew in the weather has affected the crop. It is likely that one-third of basil will not grow as normal. This will reduce the output and production is expected to be less than last year. Since mid-February farmers have been growing basil.

△ USD 56.00 /kilo

CASSIA OIL

The price for cassia oil is going up. This is due to the high demand from Chinese traders. But with reduced production activities and low supply of raw materials the oil is running out.

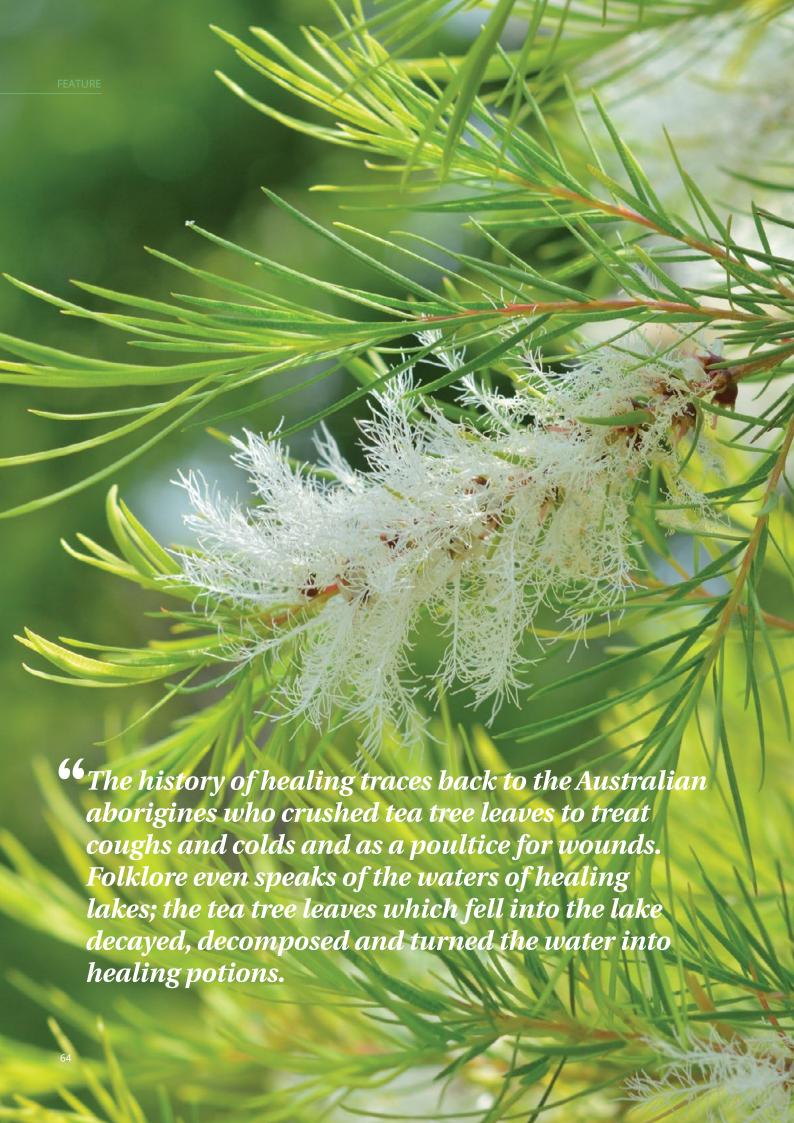
L USD 28.00 /kilo













TEA TREE OIL

Tea tree oil is indeed a part of a very old legacy. Revered by indigenous populations Melaleuca alternifolia has curried favour for generations as an amazing therapeutic. Australia boasts an annual production of almost 700 MT in plantations spread across New South Wales and Northern Queensland.

Production

Leaves and terminal branchlets yield a colourless to pale yellow oil with a strong, warm scent with spicy-earthy notes. The sturdy plant is resilient and regenerates swiftly provided a robust root network is established. Sometimes to the detriment of the oil quality, the new growth trees yield a higher 1,8-cineole content. This is usually avoided by following a replanting cycle after every 6 to 7 years. The seed-to-harvest period is around a year to 15 months with the tree attaining an average height of 2 metres. Taking care to trim it a few inches above the ground, the tree is harvested from May to November.⁴

Constituents

- 35 to 48% terpinen-4-ol, the super stimulant of white blood cells and anti-microbial activity5
- 1,8-cineole (less than 10%)
- globulol
- limonene
- α-terpinene
- α-terpineol

Benefits & Uses

The history of healing traces back to the Australian aborigines who crushed tea tree ⁶ leaves to treat coughs and colds and as a poultice for wounds. Folklore even speaks of the waters of healing lakes; the tea tree leaves which fell into the lake decayed, decomposed and turned the water into healing potions. Today its versatility as an anti-fungal, anti-bacterial and anti-microbial, and anti-inflammatory agent is unparalleled. It is used in freshening laundry, as an insect repellent, hand sanitizer, carpet and all-purpose household cleaner, in deodorants and preparations for colds, flu, bronchitis, whooping cough and sinusitis. A few drops are enough to banish dandruff, head lice, herpes, athlete's foot or contact dermatitis, ⁷ acne, gingivitis, psoriasis, and minor cuts and bruises.

Look out for: Old stocks of tea tree oil. The oil oxidises easily so any stock stored over time might end up causing skin irritation.



EUCALYPTUS OIL

What do we and koala bears have in common? Our undying love for eucalyptus! With over 700 species⁸, this *Myrtaceae* family has been part of Australian history for as long as anyone can remember. Ancient Chinese, Indian, and Greek civilisations refer to eucalyptus as a go-to treatment for a host of ailments. *Eucalyptus radiata*, popularly known as the narrow-leaved peppermint, abounds across the continent but is processed primarily in New South Wales while its smaller, mallee type cousin *Eucalyptus horistes* prefers the soil of Western Australia. *Eucalyptus globulus*, also known as Blue Gum, is also another favoured oil-yielding species.

Production

During April till November leaves and terminal branches of these tall, majestic-looking trees are harvested and sent for processing. These are then dried, crushed, and steam⁹ distilled to extract the essential oil, which is a colourless, clean-scented oil with fresh-feel, camphorous notes and slight hints¹⁰ of citrusy-floral overtones.

Constituents

- At least 70% or more of 1,8-cineole or eucalyptol¹¹
- α-pinene
- β-pinene
- α-phellandrene
- sabinene
- camphene
- limonene
- · citronellal

Benefits & Uses

From medicines to cosmetics and perfumes to cleaners, eucalyptus oil is a multitasker. It is an anti-viral, anti-bacterial, anti-inflammatory bronchodilator. Add a few drops to your diffuser for that invigorating mood enhancement, relieving blocked sinuses or clearing that irritating cough. Its inherent anti-microbial nature reduces bacteria and contact infection makes it an invaluable ingredient in insect repellent, household and industrial cleaners and disinfectants. Its immunity-enhancing and healing qualities give it a pivotal role in aromatherapy, dermal inflammation, and respiratory distress. Eucalyptus is a key ingredient in throat sprays, mouthwashes, inhalers, personal care items, chest rubs, and topical pain relievers.¹²

Look out for: Blending this very potent oil with other carrier oils. Partners perfectly with coconut, olive, avocado, argan and jojoba oils.



LEMON MYRTLE OIL

Not only can you heal with this wonderful leaf, but you can cook and eat it too! That's exactly what some of the original settlers of Australia have been using lemon myrtle for. Free and easy-growing, the native *Backhousia citriodora* is actually a tropical rainforest tree. Its creamywhite clusters of flowers make it a favourite ornamental hedge and garden tree. This is an evergreen tree that grows tall and flourishes in the warm, humid climes of central and south-eastern Queensland. Commercially, it is now grown in plantations around the Northern Rivers area. Lemon-scented myrtle leaves are a powerhouse of fragrance and flavour. They are a customary flavouring ingredient while dried leaves are used as spice or distilled for oil.¹³

Production

Should you accidentally step on some of its fallen leaves you'll be spellbound by its amazingly uplifting, lemony aroma. Though the tree is evergreen June to August is the ideal time to collect the leaves. Usually a mechanical harvester is used retaining some of the lower branches and leaves. Once plucked, the leaves are then dried, milled and processed into oil to yield a pale-yellow essential oil with a distinctly zesty-sweet, tangy aroma that is said to be 'more lemony' than lemon itself.

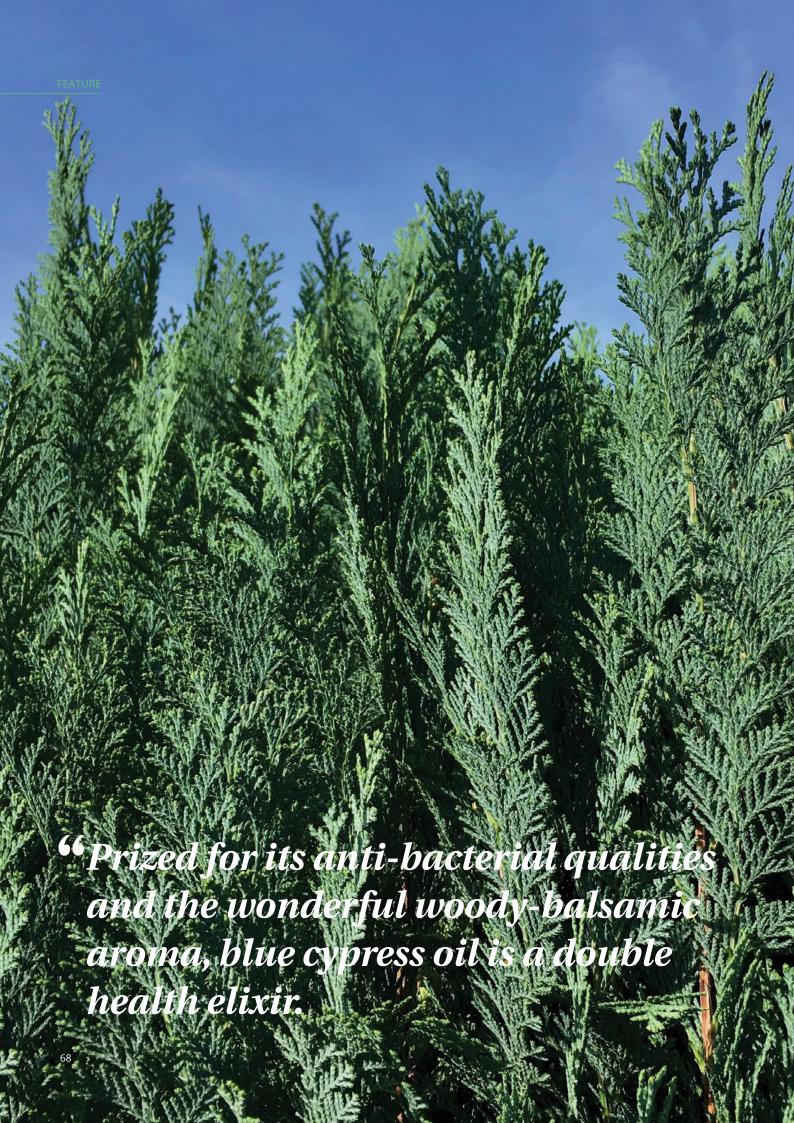
Constituents

- Most of it is citral around 87 to 95% which gives the zesty lemon aroma¹⁴
- myrcene
- linalool
- · methyl heptenone
- citronella
- geranial
- · trans-geraniol
- lutein

Benefits & Uses

Giving lemon oil a run for its money, this 'Queen of lemon herbs' is among the original bushfoods to make a firm place in the culinary galaxy. As an epicurean flavouring this highly aromatic herb is used in a plethora of culinary staples, as well as a deterrent for food spoilage, especially in milk-based edibles. It is a strong surface disinfectant; and its anti-viral, anti-fungal properties are put to use in medicines, skincare products, perfumery, insect repellents and surface and household cleaners¹⁶. It has been especially useful in curing *Molluscum contagiosum*, athlete's foot, arthritis, headaches, asthma, and healing cuts and wounds. In aromatherapy, it relieves stress and eases depression.

Look out for 17: Fresh or dried leaves are an excellent substitute for kaffir lime, but if you're using oil, do follow ratios strictly.





BLUE CYPRESS OIL

A truly unique "blue" to drive away all your blues. The blue cypress tree is another Australian native that was used extensively by the Tiwi population of Melville and Bathurst islands. This coniferous *Callitris intratropica* from the *Cupressaceae* family grows wild in the Northern Territory, in the Kakadu region, Cape York of Queensland and Kimberley in Western Australia. Sturdy and termite resistant, the tree was popular for construction but now enjoys sustainability under government aegis. It grows extremely slowly and boasts longevity of almost 200 years.

Production

All year the unbarked logs of the tree are collected. These are then resized into smaller pieces, sometimes shavings or chips. Eventually these are steam-distilled¹⁹ slowly over 48 hours. The striking deep cobalt blue oil exudes a distinctive woody, earthy aroma with spicy-floral notes.

Constituents

- Guaiol formed during distillation imparts not just the brilliant colour but antiinflammatory properties too
- Guaiazulene
- bulnesol
- gamma-Eudesmol
- β-Eudesmol,
- α-Eudesmol
- · dihydrocolumellarin

Benefits & Uses

Prized for its anti-bacterial qualities and the wonderful woody-balsamic aroma, blue cypress oil is a double health elixir. In *cosmetics* and as a perfume fixative, it soothes away stress with positive mood elevation in addition to its excellent anti-inflammatory²¹ and anti-viral properties. A go-to oil for perking up one's emotional quotient and enlivening mood, improving immunity, skin-breaks, respiratory health, insect bites, and dermal burns, arthritis, asthma relief.

Look out for²²: Some of the floral oils like rose or ylang ylang to pair and experience a mental spa.



MANUKA OIL

The secret of Maori health is inextricably intertwined with manuka. Highly adaptable, the *Leptospermum scoparium* from New Zealand varies between a creeper to growing as upright as 8 metres tall. Going by the local moniker of Kahikatoa, its antiseptic potency overrides those of tea tree oil by up to 30 times.

Production

The oil-rich leaves and terminal branches are harvested, mulched and subjected to steam distillation for oil extraction. Harvest is conducted mechanically or by hand to encourage regrowth; and the raw material is left to dry²³ before packing into a still. After boiling the steam is passed through a condenser, where it turns back to water, collected and the essential oil is siphoned off. The oil exudes a distinct light, herbaceous yet sweet aroma.

Constituents

- ß-triketones like leptospermone that makes it one of nature's superpower antimicrobials
- · trans-calamenene
- α-copaene²⁴
- cadinene
- · cadina-1,4-diene
- antioxidants

Benefits & Uses

Nature's miracle oil for skin, manuka works as an effective anti-fungal, anti-bacterial and anti-histaminic. An excellent skin emollient found in most skincare products, it also soothes inflammation from joint pains, sunburn, insect bites. As a cicatrizant and a cytophylactic, it speeds up wound healing²⁵ and treats fungal infections, skin disorders such as eczema, psoriasis, and age-related conditions. Manuka is also widely used in aromatherapy for its calming influence.

Look out for: In our ever-mutating world the road to wellness leads through ditching the diseases and taking meticulous care in keeping our environments clean and germ-free.

Nature has the means. We just need to find them and remember to use them responsibly.

OUR TRUST IN NATURE, YOURS IN US.







"Her Education Makes Your Family Smile"



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