



ESSENTIAL OILS

MARKET REPORT

SPRING 2022

SPRING TO LIFE!

Ultra International B.V.

Essential Oils, Ingredients, F & F

www.ultranl.com



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The first stirring of summer is touching the world with its warmth. As the sunshine grows stronger, so does the hope that the world will heal and we will emerge stronger and wiser. The first crops are well on their way to being harvested and we are pleased to bring you the first report of this year, the Spring Market Report 2022.

2022 is a historical milestone of sorts, and we have some remarkable ‘firsts’ to share with you. The last two years have taught us well to cope with firsts, and to take into our stride the changes that these bring. In this report you will find the stirrings of the winds of change that are significant because of the transformations they promise to usher into the world of naturals.

We are embracing hope and a new phase of growth at Ultra. With essences being the essence of what we do, we are happy to share that our efforts and innovative proliferation into the world of botanicals have borne fruit. Our business has expanded to encompass a wide array of offerings and a state-of-the-art facility in the UK. The team, too, has grown to be an inclusive, multi-cultural, and distinctly talented family. I take this opportunity to introduce the newest additions to the diverse and motley mix at Ultra, Karen Manheimer and Mark Sewell.

Just like the myriad notes of the fragrances she creates Karen has myriad facets to her talents. She is a holistic aromatherapist, a Sensei in Kenpo Karate and member of the prestigious Fragrance Creators Association. Karen joins us as Senior Vice President, Ultra International Inc. With a career spanning over four decades, it was way back in the 1980s when Mark deep-dived into the world of essential oils. Now, Mark is set to steer our vision and make his mark as Group CEO at Ultra International Inc. Turn the pages to peep into their exciting, aromatic journeys.

Hitting another new high note, Ultra’s sister company Golden Grove Naturals has achieved a milestone with the coveted Ecovadis Gold Sustainability world ranking. This worldwide rating of over 75,000 businesses is based on parameters of sustainable practices. We are proud to share that Golden Grove Naturals has been ranked among the top 4% of these global businesses.

However, we have some sombre reports coming in from across the world. World over, maritime activity has been severely affected by COVID-19 restrictions. Countrywide national lockdowns resulted in freight containers, cargo ships and freight ships being marooned at ports and stacked at inland depots. The global backlog, coupled with a shortage of hands, resulted in delayed timelines and a drastic escalation of transportation costs.

Just as the world was putting pandemic-induced uncertainties behind it, the Russia-Ukraine situation has heightened volatility. Since Russia is a significant player in the world's essential oil commerce landscape, there is considerable instability on the global partner trade front.

News from the southern shores of Australia is not encouraging. With inclement weather and torrential rains lashing many parts of the island continent, the country is reeling under flash floods and waterlogging. The other kind of essentials has now emerged as a priority; and, needless to say, the impact on crops is not expected to be promising.

Moving towards the other southern shores of South America, what brings cheer is the exploration of the medicinal value of *Cordia verbenacea*. Commonly called black sage Brazil's elixir of life is now being used for flavouring fluids, teas, and syrups. Find out more in this report.

A marvel in our universe, digital fragrances are now a reality. As in every other aspect of life, new world technology has given a new meaning to the experience of sensing the scents. NFT-backed virtual worlds can now be merged with physical reality with the help of VR headsets with scent cartridges. Digital fragrances give an uber-tech twist to experience; and the multi-sensory metaverse seems to be the next-gen reality.

In the other reality of the urban jungle, vertical farming and hydroponics have emerged as sustainable and viable options to grow crops. We bring you an insight into how farmscrapers are scaling new heights to become the new-age cropping solution for better city planning.

As I leave you to read through this report, I sign off with a little wish which I'm sure all of you echo. As most nations open their borders, I hope that physical conferences are back with their signature aplomb. And that we meet and greet each other in person.

Till that time, stay safe.

Priyamvada Sanganeria

Director, Ultra International BV



MARK SEWELL
CEO, Ultra International

A NEW ASSET OF EXPERIENCE AND EXPERTISE

MARK SEWELL JOINS AS GROUP CEO OF ULTRA INTERNATIONAL.

As a former public school student, Mark's initial motivation was a well-paying respectable career in the City of London's financial district. Though his foray into the essential oils space was an unconventional choice at the time, four decades on he has been an active participant in the ever-changing industry whilst being a regular at global forums such as IFEAT and a past arbitrator and board member of the IGPA (International General Produce Association).

Mark has spent over 40 years in the essential oils space, gathering a wealth of knowledge and experience, but what stands him apart is his commitment and loyalty to only two previous companies. He has spent his career in the essential oils industry, seeing it evolve, and growing with it.

Mark comes on board as the Ultra Group CEO with this promise of responsible and sustainable growth.

He ventured into the essential oils space in 1980 with Fuerst Day Lawson Ltd (FDL), trading essential oils, where Mark learnt the nuances of the business, gaining invaluable insight into the mechanics of the trade whilst interacting with companies all over the globe and spending considerable time in Southeast Asia.

It was during his early days at FDL that Mark was first introduced to the Ultra Group and Mr Sant Sanganageria. A 22-year stint with FDL as a director and Group Strategy board member aided Mark's quest to hone his trading acumen. However, to move forward in the business he decided to take on a new challenge in 2003 when an industry veteran, Ungerer Ltd., offered Mark the opportunity to expand his career horizon with its global presence and unique dealings in all sectors of the industry, including raw materials (essential oils and aroma chemicals) along with flavour and fragrance compounds.

Mark's role at Ungerer saw a technical shift in responsibilities with the production of essential oils, a stringent quality control protocol and a very different approach to the business. With his new skill set in place, underpinned by a wealth of industry knowledge, Mark ventured into the acquisition process as well as devising a strategy for the purchasing and sales of natural products and aroma chemicals which saw substantial year on year growth within the Ungerer Group of companies. A portfolio that started with trading saw constant upskilling with production, quality control, customer satisfaction, strategy and managerial responsibilities.

Fascinated by the Ultra Group's rich heritage, history and competency, Mark is delighted to take on the Group CEO's role: *"As a family-run business, the decision-making process is quick, considered and efficient. I've seen an agility and assertiveness across the company, swiftly absorbing the pace of change within the industry and effectively managing the challenges presented. That said, the level of personal service is paramount and underpins the bespoke approach and unrivalled market intelligence given to both customers and suppliers alike. The attention to detail and considerable investment Ultra commits to source allows greater flexibility, transparency and traceability across the supply chain. The Ultra Group's fresh and exciting approach has struck a chord with me and I am excited to be a part of their future development and continued growth."*

Whilst harnessing the company's customer-centric approach and efficiencies, Mark has set his sights on expanding Ultra's global operations starting with the newly established state-of-the-art facility in Chertsey, UK with more to come !

**KAREN MANHEIMER***Senior Vice President, Ultra International*

A ROBUST BOND WITH ESSENTIAL OILS

KAREN MANHEIMER JOINS AS SENIOR VICE PRESIDENT, ULTRA INTERNATIONAL INC

Ms Karen Manheimer joins Ultra International Inc. as the Senior Vice President. She brings with her almost three decades of experience in managing essential oil products, sales, sourcing, and sustainability efforts. She holds a distinguished position on the board of the Fragrance Creators Association. Ultra International Inc. brought in a big motivational boon to the entire group with Karen's entry.

Karen has grown up in New York City. Coming from a family-owned business in the essential oils industry, even as a child, she was taught the nuances of these elixirs. A fourth-generation essential oils expert, her father, Mr Steve Manheimer was the President of his family-founded company, J. Manheimer Inc. A well-known figure in the essential oils industry, Steve was passionate about the prosperity of the industry. Towards this goal he got involved in creating associations such as IFEAT to deliberate and exchange ideas. During this period he was introduced to Mr Sant Sanganeria, who echoed a similar vision. Karen was a natural in the naturals and essentials space as she was exposed to this drive from childhood.

An anthropology major from the University of Pennsylvania, Karen's family insisted she gain experience outside the protected domain of the family-owned business. To this end, she worked with a French company dealing in steel sales for a couple of years in New York. It was only in 1993 that she joined J. Manheimer Inc. Her first experience was in managing the spice oil and oleoresin business. During this time, she travelled extensively to the south of India, gathering knowledge about the flavours market.

In 2000, she ventured into her beloved essential oils space. The entire journey from sourcing to distribution, the exploration of cultures and places, all fascinated Karen. She got intimately involved with the process and honed her skills in the trade. In 2004 the future of Karen and J. Manheimer Inc. was transformed, with the big corporate, Kerry, buying the business. From the effortless decision-making of a family business, to a corporate structure, Karen evolved within the organisation with exposure to varied business operations and processes. She took on the responsibilities of sales, sourcing, and developing sustainability projects for the new company till December 2021.

Some 18 years on from joining Kerry, she has decided to take on another challenge. The ethos of the Ultra Group reminded Karen of her roots, and it pulled her towards her latest role. The passion for essential oils runs deep at Ultra, and that intimacy of the business is in sync with Karen's career goals. At Ultra International Inc. she will be responsible for end-user sales. Overhauling the sourcing activities, Karen will be looking to develop new vendors, and create novel products with existing ones. She has set her sights on expanding the company's horizon beyond the essential oils space.

An extremely ambitious person, Karen Manheimer is constantly looking to upgrade her skill set. Apart from being an MBA from Michigan Ross School of Business, Karen is a certified level 1 holistic aromatherapist from the New York Institute of Aromatic Studies. In 1987 she spent the summer in the south of France cultivating lavender plantations. Along with being a successful professional in the essential oils space, Karen is a fourth-degree black belt in Kenpo Karate and holds the prestigious title of 'Sensei.' She is the proud mother of two, equally ambitious, daughters.



LEMON OIL

Citrus limon (L.) Burm. F. 🌍 Argentina

2020/2021 was an exceptional season in terms of production levels. A severe drought that occurred during blossom and fruit set in the main growing area was expected to reduce fruit volumes. However, heavy rains in the summer rainy season allowed lemon trees to recuperate, increasing production above low initial estimates. Fresh lemon production ended 56.5% up from USDA estimates, from 1.15 to 1.8 million metric tonnes (MMT). As a result of an alternate bearing off year fresh lemon production for 2021/2022 is estimated to decrease to 1.65 MMT, compared to the previous marketing year.

Due to the unexpected increase in production in the 2020/2021 season, the fresh lemons for processing are forecast to have increased from 831,000 MT to 1.39 MMT, up by 66% from original USDA estimates. Meanwhile, for 2021/2022, fresh lemons for processing are forecast to decline to 1.29 MMT, as a result of the projected decline in fresh lemon production for this coming season.

Similarly, due to 2020/2021 larger production and less fruit supply in the northern hemisphere fruit producing countries, fresh lemon exports increased 47%, to 264,000 MT, from USDA estimates. For 2021/2022 fresh lemon exports are forecast at 230,000 MT, down 34,000 MT from official estimates, as a result of the forecast smaller production.

In terms of export destinations, Argentina managed to diversify fruit exports during 2020/2021, shifting destinations from the EU and Russia into other significant markets such as the USA and Canada, and non-traditional markets such as Mexico, China, United Arab Emirates, Saudi Arabia and other Asian markets. Those markets, both traditional and the ones that have recently been opened, are expected to strengthen during the coming marketing year, with a look toward Asian markets for expansion. Particularly, exports to the USA have shown an upward trend after regaining market access to the USA in 2016/2017. However, this significant increase of lemon exports to the USA was due to very special and favourable circumstances in Argentina that will not be the same in 2021/2022. Therefore, exports are expected to decrease substantially in the coming season.

The Argentinian lemon industry is composed mainly of companies that are integrated so they have control throughout the entire production chain. Seventy percent of fruit production goes to by-product production, such as concentrated juice, essential oils and dry peel or pectins. Nowadays the industries are producing Not From Concentrate Juice (NFC), obtained by simple fruit squeezing and a mild pasteurisation. All these products are obtained from first quality fruit and they are commercialised in internal and external markets. Most companies work under a GFSI (Global Food Safety Initiative) or another quality system and most of them work with SGF (Sure Global Fair), which is a voluntary control system.

The fresh lemon export business continues to be profitable. However, with production costs, such as labour, inputs, energy, inland and ocean freight increasing significantly, and high inflation rates, the competitiveness of the lemon sector has been affected. Furthermore, although the continuous depreciation of the Argentine peso and the elimination of export taxes make exports more price-competitive in foreign markets, a decrease in export rebates and high interest rates partially offset that advantage.

The COVID-19 pandemic has not had a major impact on the activity of the Argentine citrus industry.

▲ USD 18.00 /kilo

USDA ESTIMATED ARGENTINIAN LEMON PRODUCTION, SUPPLY AND DISTRIBUTION 2017/18 TO 2021/22 ('000 MT)

	2017/18	2018/19	2019/20	2020/21	Jan 2021/22
Production	1,770	1,780	1,491	1,800	1,650
Fresh Domestic	151	170	160	150	130
Consumption Processing	1,348	1,377	1,078	1,388	1,291
Total Exports	272	234	256	264	220



Golden Grove Naturals has been awarded the prestigious Ecovadis Gold Sustainability ranking. Ecovadis is a global agency, rating over 75,000 businesses. Its rating system overviews the entire supply chain with a focus on sustainable business practices. It evaluates varied aspects including human rights, labour laws, environmental concerns, and fair businesses. The gold ranking places Golden Grove in the top 4% among these companies.

The Australian market is brimming with essential oil crop farmers, though only a handful distil oil, and a far smaller number produce a multitude of essential oils beyond tea tree. Golden Grove Naturals is one of the rare commercial enterprises distilling multiple products.

A sustainable enterprise, it grows, manufactures, exports, and markets essential oils. Despite being a small to medium business, it outclasses local competition courtesy of their state-of-the-art manufacturing facilities, and regenerative farming approach. The Ecovadis rating is a huge honour for the Australian enterprise manufacturing natural aromatic chemicals.

Heavy rains since the middle of February have been responsible for flooding in Wide Bay-Burnett, South East Queensland and the Northern Rivers of New South Wales. Brisbane and surrounding areas experienced the most extreme flooding where more than 2000 homes were submerged and many more were partially flooded.

Following days of excessive rainfall, recovery efforts are beginning in the states of Queensland and New South Wales that left thousands of properties and entire neighbourhoods underwater. Emergency departments deployed boats to help rescue residents from the rising floodwaters.

This will also have a huge impact on plantations in this area as crop farmers anticipate that entire crops could be lost as floodwaters have completely submerged entire plantations of soybean, rice, macadamia and even tea tree.





BUDDAWOOD OIL

Eremophila mitchellii 🌍 Australia

There is consistent oil supply. There is low demand for the oil. The fragrance industry is a major consumer of buddawood oil.

📈 USD 459.00 /kilo

LEMON MYRTLE OIL

Backhousia citriodora 🌍 Australia

Production in 2021 touched the 3 MT figure. A steady production and processing cycle is undertaken in Australia. Companies dealing with aromatherapy products have shown interest in the oil due to its appealing fragrance. Its usage has grown significantly.

📈 USD 350.00 /kilo

SANDALWOOD OIL

Santalum spicatum 🌍 Australia

The market is stable. There is reduced demand for fine fragrance. However, this is expected to pick up as travel restrictions are reduced. A large consumer of this oil is the fine fragrance industry.

📈 USD 1550.00 /kilo

TEA TREE OIL

Melaleuca alternifolia 🌍 Australia

There will be a huge change in the market scenario due to the floods in the area. The exact impact will be determined at a later stage but it is evident that there will be huge losses of the crop. Floods have also been responsible for reduced oil production in the past years. Prices continue to surge and the healthy demand combined with the huge loss of crop will cause prices to escalate further. Other origins of tea tree oil will find it impossible to fulfil the demand.

📈 AUD 48.00 /kilo



We are elated and proud
to announce
Golden Grove Naturals receives
the esteemed ranking of
"EcoVadis Gold Sustainability."

The EcoVadis rating system
promotes a focus
on sustainable performance
throughout a fair
business practice.

Golden Grove Naturals
is the right fit to rank gold
for this honourable and
futuristic approach.



FUTURISTIC FRAGRANCE FEELS

NFTs (non-fungible tokens) are the way forward to almost everything, including fragrances.

Before we dive into what the changing technology means for the fragrance industry, let us familiarise you with the technology. A typical day in the real world could soon be replicated in the virtual one. Without moving from the comfort of your home one could go for a long drive, chat over coffee with friends, or engage in a shopping expedition. All these experiences will be crafted to seem real. This is what the metaverse proposes, a virtual world where people can meet, interact, buy, and engage in immersive experiences, indistinguishable from the real world. However, the concept of the metaverse isn't novel. Online video games have used it effectively for decades, fostering communication channels between gamers, but the version being proposed now is the next frontier in the dynamic cycle of the internet revolution.



METaverse DECODED

So, what exactly is the metaverse? Considering it's an evolving technology, it is too early to comprehend its full scope. Think back to the 1970s, when the internet was a concept in a nascent phase. While one knew it was an evolved form of communication, it was almost impossible to predict what shape it would ultimately take. The metaverse is a constantly evolving maze. To put it simply, when virtual and augmented realities merge, they create the metaverse. It's about crafting a world where virtual lives are as significant as physical reality. Companies want individuals to spend time and, ultimately, money on their digital avatars. The current vision of the metaverse is introduced to the public with the aid of devices like virtual reality headsets, digital glasses, and smartphones. Through these technologies individuals can remotely connect with 3D digital environments in an immersive fashion.



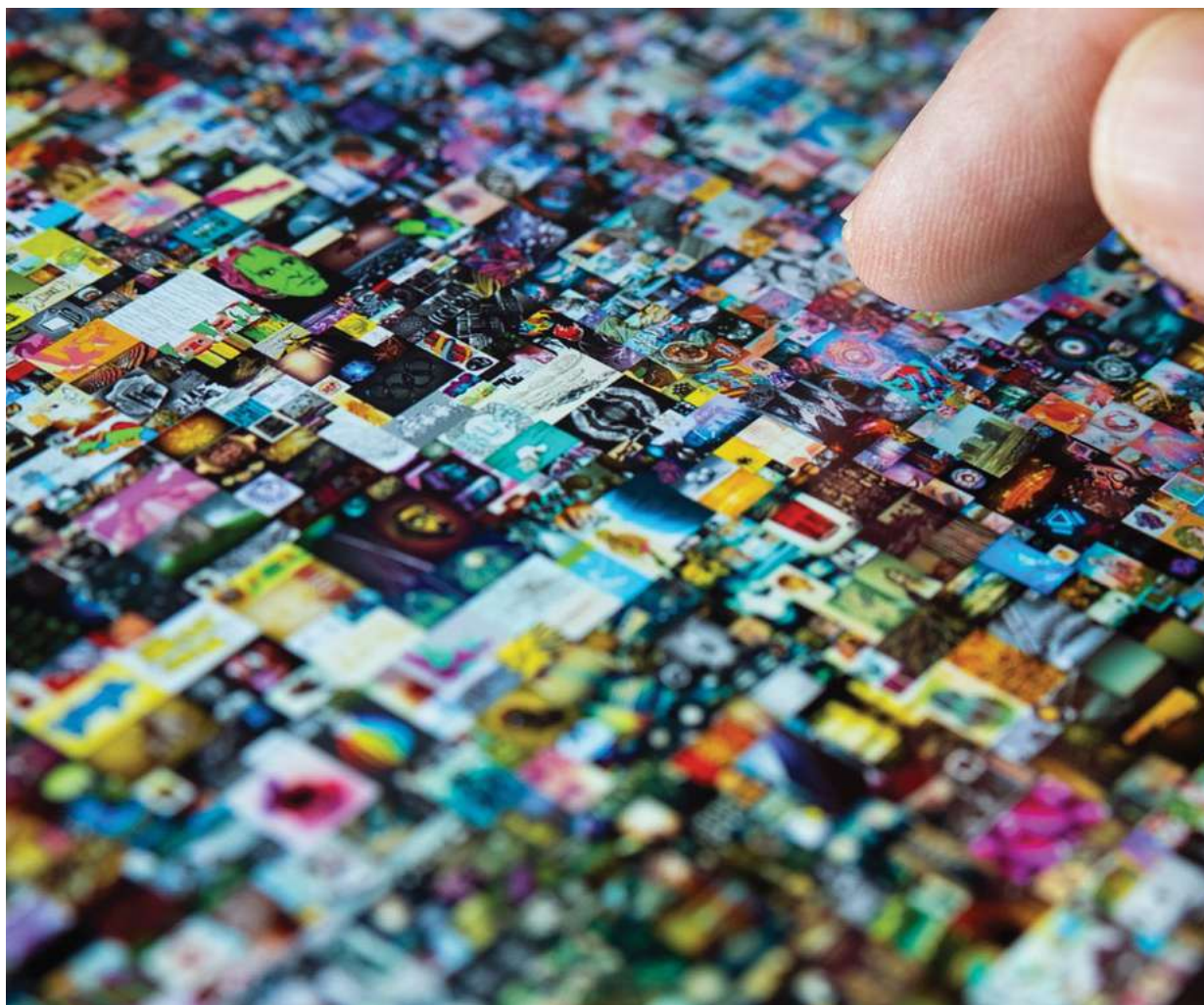
“The current vision of the metaverse is introduced to the public with the aid of devices like virtual reality headsets, digital glasses, and smartphones. Through these technologies individuals can remotely connect with 3D digital environments in an immersive fashion.”

LINCHPIN OF THE METAVERSE ECONOMY - NFTS

The next level in metaverse innovation is aimed at creating true societies with functional economies. Digital properties such as home, furniture, clothing, art, cars, and more, need to be authenticated and follow the laws of digital land. This is where non-fungible tokens or NFTs come into the picture. They are the cornerstone of the metaverse economy. Let's help you understand NFTs a little better.

Blockchain is a digital public record of transactions. Digital items that are purchased or sold using this blockchain technology are called NFTs. While they are crafted using similar programming as Bitcoin or Ethereum, their uniqueness stems from the fact that they are non-fungible. So, what are fungible items? Cryptocurrencies or physical money can be exchanged for one another. They also have definite values, meaning one dollar will always have the same value as another dollar. Similarly, a Bitcoin is financially equivalent to another Bitcoin, thus making them fungible items. NFTs on the other hand are unique, and non-fungible. Every NFT has a different digital signature. Thus, they can neither be exchanged for one another, nor be equal in value.

The next logical question is, how do NFTs work? They are minted from digital objects that can correspond to tangible or intangible items in the real world. Anything from arts, video clips, shoes, clothes, collectables, music, GIFs, and even tweets, can be NFTs. The first ever tweet from Twitter co-founder Jack Dorsey, sold as an NFT for over USD 2.9 million. NFTs have exclusivity and are considered collectable items. So, rather than hanging a rare painting on the wall, you can become the owner of a digital copy. What is the charm behind NFTs? They provide freedom. Artists, creators, and innovators are no longer bogged down by the constraints of space to monetise their creations.



“Technologies have emerged that can replicate nature’s scents in a lab. Whether it is the smell of freshly cut grass, the ocean breeze, the fragrance after the first rain of the season, or your favourite flower in the backyard, experiences surrounding these scents can be simulated.”



CATCHING SCENTS IN THE METAVERSE

While, art, music, and even real estate, have been enticing customers to latch onto the NFT trend, an industry that is slowly getting onto the bandwagon is the beauty market. The world of fragrances understands its charm and sustainable execution. Perfumes are considered collectable items. The introduction of NFTs add to the exclusivity of the product. They are also being considered heavily in the quest to reduce counterfeits in the fragrance market.

A Berlin based lab recently became the first to introduce a digital fragrance to the market. It crafted a digital artwork of a perfume, which was backed by an NFT. The process of creating a digital perfume identity revolved around two facets. First, it needed a digital replica of the product. The artwork for the same was created using near-infrared spectroscopy. This process identifies the molecular makeup of an object. The molecular vibrations of physical objects are measured, and the wavelengths of the bottle and perfume are extracted. These details are then collated and shared with a digital artist to replicate the product for the digital world.

Second, it is not enough to have an impressive artwork. After all, what is a perfume without fragrance? That is the question that was in the forefront of all minds when companies like Facebook started introducing their mega metaverse plans. Unless an immersive experience can be replicated, the metaverse will be nothing more than gimmicky in nature. Luckily, innovators have found ways to break the barrier between real and virtual spaces, and entice senses of sound, touch, and smell. So, how do you smell in the digital world? VR headsets are the gateway for teleportation into the virtual realm. To evoke similar senses as the real world, these VR headsets are being modified. Fitted with scent cartridges, the resulting smells are supposed to correspond to experiences in the virtual space. For instance, walk into a rose garden and you are greeted with the actual scent of the natural flower. Sample a perfume, and its exclusive scent reaches your nose. These aromas evolve as the user experience in the virtual environment changes. Innovators do not underestimate that odour is a vital cog as the brain processes information. It is connected to emotions, memories, and influences human behaviour to a large extent.

Technologies have emerged that can replicate nature's scents in a lab. Whether it is the smell of freshly cut grass, the ocean breeze, the fragrance after the first rain of the season, or your favourite flower in the backyard, experiences surrounding these scents can be simulated. They work as emotional triggers and are replicated when users interact with objects in the virtual space. These experiences are considered therapeutic as well, and are being looked at for treatments that support well-being.

With sensory tools being unlocked, the puzzle of a multisensory metaverse is slowly being solved. Its scope has expanded, and innovators are lining up to attract and entice newer markets.

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ORANGE OIL CP

Citrus sinensis 📍 Brazil

The Agricultural Trade Office (ATO)/ São Paulo revised estimate for the total Brazilian orange crop for market year (MY) 2021/2022 is 360.6 million boxes (M. boxes), a drop of 8% compared to the previous estimate. Harvesting in the São Paulo and the western Minas Gerais citrus belt started in May 2021 and should be extended through February/March 2022.

Meanwhile, Fundecitrus' updated estimate for the 2021/2022 citrus production for the São Paulo and the western Minas Gerais citrus belt placed production at 264.1 M. boxes, the second lowest production in almost 30 years. Adverse weather conditions including a severe drought and successive frosts in June/July negatively impacted the growth of the fruit and increased premature fruit drop. Rainfall from May to November 2021 was 344 millimetres, 31% lower than the historical average for the past 40 years. The intense drought reduced the water level of rivers and reservoirs, affecting water availability even to irrigated groves comprising more than 30% of the citrus belt area.



Brazil's orange growth was also affected this season as a consequence of the adverse climate. Average fruit weight was reduced to 142.2 grams (287 fruits per box) in the previous forecast update, which is 15.9% lower than in the last five crop seasons.

The 2022/2023 (MY, July-June) total Brazilian orange crop is forecast at 405 M. boxes of 40.8 kg each, an increase of 12% compared to the current crop. The forecast is based on the assumption that normal weather conditions will prevail as of mid-December 2021, in order to support fruit setting and development of the second blossoming from the majority of the citrus groves in the São Paulo and the western Minas Gerais citrus belt.

The São Paulo and the western Minas Gerais citrus belt is projected to be 305 M. boxes, representing an increase of 16% compared to the revised figure for the previous season, accounting for the majority of the increase in available supplies.

Total Brazilian FCOJ (65 brix equivalent) production for 2022/2023 is estimated at 1.123 million tonnes (MMT), an increase of 16% compared with output the previous season, as a result of more oranges available for processing. Similarly, consumption and stocks are forecast higher. Brazil is by far the largest producer and is projected to account for nearly three-quarters of global orange juice exports.

According to the 2021 greening survey conducted by Fundecitrus, 43.4 million trees, or 22.37% of the trees in the São Paulo and the western Minas Gerais citrus belt are affected by greening. This figure shows an increase of roughly 7% in the greening infection relative to the 2020 greening survey.

Many citrus farmers reported limited revenue during the 2021/2022 season despite higher prices due to the low productivity in most of the citrus belt. USDA is reporting less investment by some farmers which is likely to reduce the planted area and the renewal of citrus orchards. If confirmed, the lower production area may limit a significant harvest in the coming years, given the decrease in the productive potential in the citrus belt.

📈 USD 18.00 /kilo

BRAZIL: CITRUS BELT ORANGE CROP FORECAST BY VARIETY

Variety group	Forecast components September 2021 / December 2021		Crop forecast 2021-2022 September 2021 / December 2021
	Fruit estimated per box (number)	Estimated drop rate (percentage)	Total (million boxes)
Hamlin, Westin and Rubi	334 / 332	12.0	46.83 / 47.16
Other early	291 / 289	13.5	14.73 / 14.85
Pera Rio	278 / 290	23.0	78.03 / 74.87
Valencia and Folha Murcha	263 / 264	24.0	97.53 / 97.26
Natal	267 / 274	24.0	30.75 / 30.00
Total	283 / 287	20.9	267.87 / 264.14

BRAZIL: ORANGE PRODUCTION, EXPORTS, DOMESTIC CONSUMPTION AND DELIVERED TO PROCESSORS - 2020/21 TO 2022/23 (MILLION BOXES)

	2020/21	2021/22	2022/23
Total Production	364.5	360.6	405.0
Citrus Belt	268.6	264.0	305.0
Exports	0.2	0.1	0.2
Domestic Consumption	121.8	112.1	116.4
Delivered to Processors	243.0	225.0	265.0



LAVENDER OIL

Lavandula angustifolia 🇧🇬 Bulgaria

The crop season received unforeseen rainfall. This led to inferior quality of lavender being produced in various regions. Inflation, along with expensive fuel and electricity, is expected to drive production costs up in 2022. While good quality lavender is rare, the market is steady and progressing at a decent pace. Conventional lavender is being sold at Euro 47/kg, and organic lavender oil is priced at Euro 69/kg.

📈 EURO 65.00 /kilo

MELISSA OIL

Melissa officinalis L. 🇧🇬 Bulgaria

There isn't much trading for the oil in the market. Melissa oil is priced in the range of Euro 950/kg.

📈 EURO 1120.00 /kilo

ROSE OIL

Rosa damascena 🇧🇬 Bulgaria

Rose picking is a labour-intensive process, and availability of field workers continues to be an issue. Also, with an increase in fuel and electricity prices, production costs are expected to increase in 2022. Inflation will have an impact on the cost as well. As opposed to a slow start in 2020, the market did improve in 2021. The oil is priced around Euro 5,800/kg.

📈 EURO 6300.00 /kilo

CITRUS OVERVIEW

The largest group of essential oils is obtained from the citrus family. The dominant oil is orange but sizeable quantities of lemon, lime and grapefruit oils are produced. Combined global annual production of these oils exceeds 50,000 metric tonnes, with orange oils accounting for approximately three quarters of total citrus oil production. Other smaller but important citrus oils include bergamot and neroli oils. The supply and demand of citrus oils is usually more complex than other essential oils, and hence factors impacting market trends are more complicated to analyse.

The citrus fruit from which the oil is obtained is a tree crop often with a gestation period of several years and produced and consumed worldwide. Citrus is mainly consumed as fresh fruit but citrus processing and the recovery of citrus by-products (e.g., juice, peel oil, aroma and essence oils, frozen pulp cells and cattle feed pellets) is an important economic component of citrus production, especially when large volumes of citrus are processed. In contrast to most essential oils, which are extracted by steam distillation, citrus oils are obtained as a by-product of juice extraction by centrifugation, producing cold pressed oil. Most of the fragrance and goodness resides in the skin of the fruit from which the oil is extracted.

The sections below summarise trends in global production and processing of orange, lemon/lime, and grapefruit, but developments in major producing countries are discussed in the individual country sections.





GLOBAL ORANGE PRODUCTION AND PROCESSING

According to the USDA, global orange production for 2021/2022 is estimated up 1.4 million metric tonnes (MMT) from the previous year to 48.8 MMT due to improved weather conditions in Brazil, Mexico and Turkey which is enough to offset the lower crop size in Egypt, the USA and the European Union. As a result, the amount of oranges for processing will also be higher than the last crop.

The global increase in crop size will lead to an increase in the amount of orange oil produced but price is expected to remain firm for several reasons:

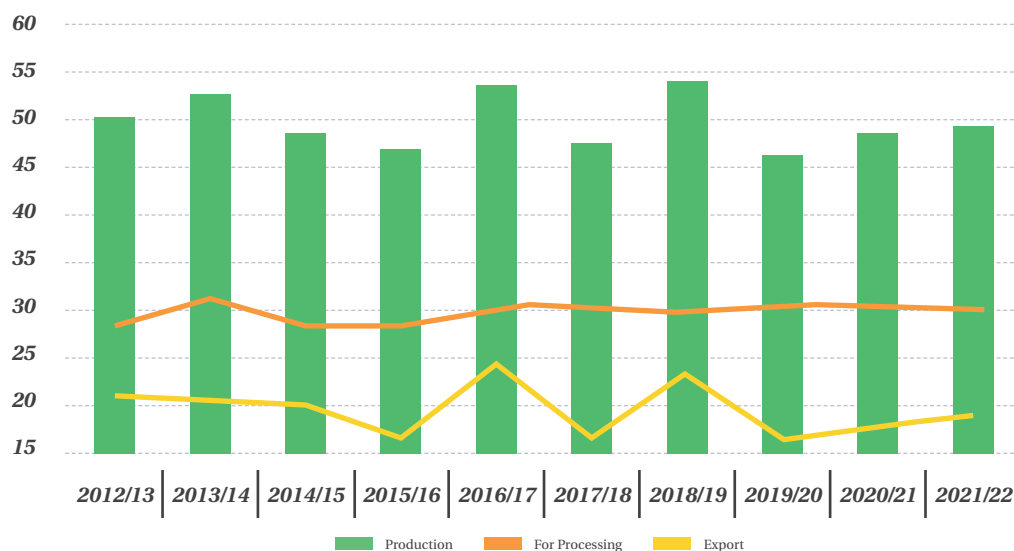
- demand will be higher than supply with no carryover inventory
- more expensive to care for the orchards
- inflation and increase in energy and transportation costs
- difficulties in finding workers
- new USA regulations on zero tolerance of chlorpyrifos pesticides are some of the factors that will help maintain a high price of orange oil.

Global orange juice production for 2021/2022 is forecast 11% higher to 1.7 MMT (65 degrees brix). Higher production in Brazil and Mexico is expected to offset declines in the USA and the European Union. Consumption is projected to match production but continue its long-term downward trend.

USDA ORANGES, FRESH: PRODUCTION AND PROCESSING FOR SELECTED COUNTRIES ('000 MT)

<i>Countries</i>	<i>2016/17</i>	<i>2017/18</i>	<i>2018/19</i>	<i>2019/20</i>	<i>2020/21</i>	<i>2021/22 Jan Forecast</i>
Brazil	20,890	15,953	19,298	14,870	14,712	16,524
China	7,000	7,300	7,200	7,400	7,500	7,600
European Union	6,739	6,270	6,800	6,268	6,488	6,101
Mexico	4,630	4,737	4,716	2,530	4,136	4,280
United States	4,616	3,515	4,923	4,766	4,015	3,560
Egypt	3,000	3,120	3,600	3,200	3,570	3,000
Turkey	1,850	1,905	1,900	1,700	1,300	1,820
South Africa	1,363	1,586	1,590	1,620	1,650	1,700
Morocco	1,037	1,021	1,183	806	1,039	1,150
Vietnam	768	855	1,017	1,017	1,017	1,017
Argentina	700	750	800	700	750	800
Australia	526	528	515	485	525	535
Costa Rica	322	315	295	285	290	300
Guatemala	177	178	178	180	180	180
Iraq	73	75	73	134	134	130
Other	168	166	153	147	142	141
Total	53,859	48,274	54,241	46,108	47,448	48,838
For Processing						
Brazil	16,116	10,975	14,362	9,915	10,159	11,791
USA	3,001	2,010	3,378	3,050	2,488	2,230
Mexico	2,100	1,900	2,200	900	1,350	1,700
European Union	1,491	1,154	1,309	848	1,006	908
South Africa	123	239	333	282	363	368
China	580	570	520	400	350	350
Egypt	100	100	360	335	350	300
Australia	214	215	210	195	250	225
Costa Rica	238	232	216	213	215	220
Argentina	273	375	307	190	186	200
Other	181	179	189	174	164	194
Total	24,417	17,949	23,384	16,502	16,881	18,486

FRUIT FOR PROCESSING IF FORECAST HIGHER WITH CLIMBING PRODUCTION



GLOBAL LEMON / LIME PRODUCTION AND PROCESSING

According to the USDA, global lemon production is forecast up 4% to a record 9.5 MMT due to higher production in Mexico, the USA and Turkey. With higher available supplies, record global consumption and exports are extended. However, lemons for processing are expected to decrease because of lower production in Argentina and the European Union since these are the regions which process the most fruits.

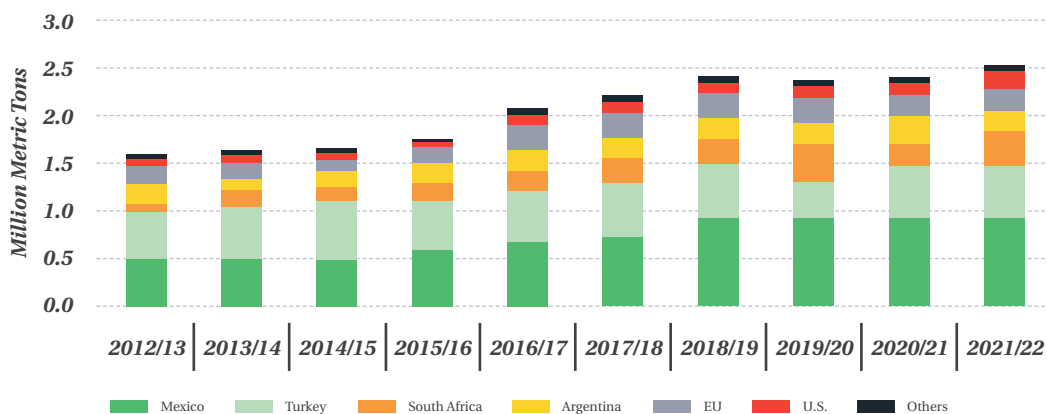
Despite the lower amounts of lemons for processing, the lemon oil price is expected to remain soft due to the ample supply because of carryover inventory, and the soft demand.

USDA LEMONS FRESH: PRODUCTION AND PROCESSING FOR SELECTED COUNTRIES

Countries	2018/19		2019/20		2020/21		Forecast Jan 21/22	
	Prod	Process	Prod	Process	Prod	Process	Prod	Process
Argentina	1,780	1,377	1,491	1,078	1,800	1,388	1,650	1,291
EU	1,683	376	1,488	314	1,720	392	1,567	283
USA	909	240	983	301	802	158	885	200
South Africa	492	122	620	138	625	110	650	114
Total	8,810	2,600	8,554	2,426	9,195	2,479	9,532	2,371



GLOBAL LEMON/LIME EXPORTS CLIMB TO ANOTHER RECORD



GLOBAL GRAPEFRUIT PRODUCTION AND PROCESSING

Global grapefruit production in 2021/22 is forecast up 4% to a record 7.0 MMT due to favourable weather and expanded areas in China and Mexico. Consumption is forecast at a record high with record supplies, and exports are expected to rebound.

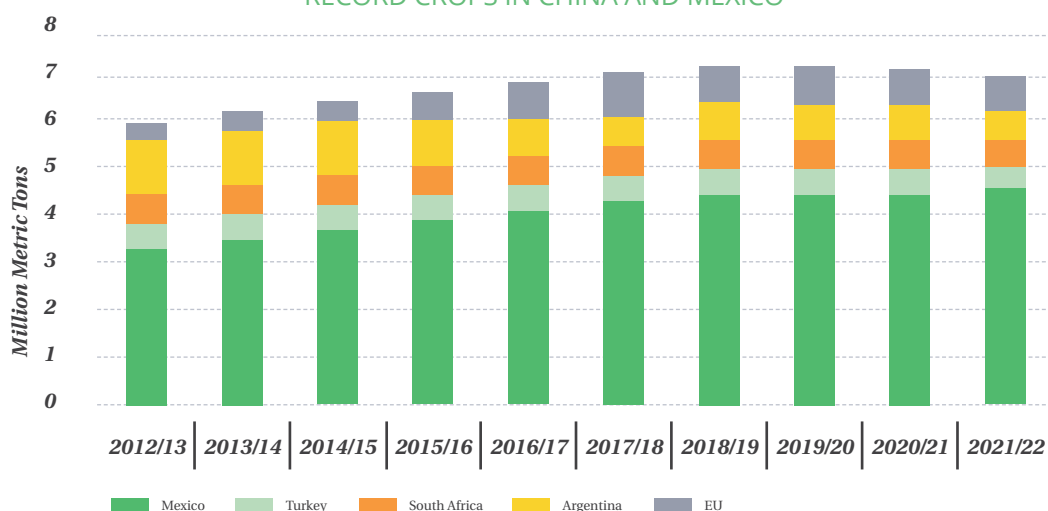
Global processing is expected to be higher than the last crop despite lower production in Florida. Also, the USA remains the top processor of grapefruit although its production is lower than past crops. Mexico is the second largest processor followed by South Africa.



USDA GRAPEFRUIT FRESH: PRODUCTION AND PROCESSING FOR SELECTED COUNTRIES ('000 MT)

Countries	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22 Jan Forecast
China	4,600	4,800	4,900	4,930	4,950	5,200
Mexico	442	418	473	491	510	534
South Africa	354	403	372	345	367	374
United States	633	462	548	517	386	343
Turkey	253	260	250	249	238	250
Israel	149	144	139	143	121	130
European Union	106	107	108	95	105	108
Other	25	26	26	27	27	27
Total	6,562	6,620	6,816	6,797	6,704	6,966
For Processing						
United States	268	191	292	226	138	130
Mexico	88	90	94	95	94	105
South Africa	118	111	107	94	69	105
China	0	0	0	0	50	60
Israel	80	68	77	78	60	60
Other	20	19	21	17	19	19
Total	574	479	591	510	430	439

GLOBAL GRAPEFRUIT PRODUCTION TRENDS HIGHER WITH RECORD CROPS IN CHINA AND MEXICO





CITRONELLA OIL

Cymbopogon winterianus 🌍 China

Production has witnessed a decline, due to the fall in domestic crude oil price. The major producing belts in Yunnan have been hit by a fall in crude transactions around border areas. Restrictions due to the pandemic have also adversely affected production. This is similar to the situation last season.

🏠 USD 17.00 /kilo

GERANIUM OIL

Pelargonium graveolens 🌍 China

Small volumes are being traded in the market. The production season has also ended. The price has risen slightly.

🏠 USD 168.00 /kilo

AMYRIS OIL

Amyris balsamifera 🌍 Dominican Republic

The demand for amyris oil is weak. Maximum orders come from large users in India, who offer a low price for limited quantities. Distilleries in Haiti are operating at very limited capacity due to the border crisis, and the difficult situation in the country. Partners in the Dominican Republic are also working at 30% capacity. But production has been restored to normal at the primary facility in the country.

🏠 USD 81.00 /kilo



EUCALYPTUS CITRIODORA OIL

Eucalyptus citriodora 🌍 China

There is heavy oil demand in the market, though farmers are unwilling to distil, due to the low market price. The production season is currently underway.

🏠 USD 21.00 /kilo

WINTERGREEN OIL

Gaultheria procumbens 🌍 China

Wintergreen oil is produced predominantly in the mountainous regions of Yunnan with annual output estimated between 50 – 100 MT and shows a declining trend. The twigs and leaves are wild harvested in April-May and October-December and steam distilled in hundreds of small distillation units. Unlike many other essential oils, it is heavier than water. It is used in pharmaceuticals, fragrances and flavours. It is subject to wide price fluctuations. There is limited carryover stock from last season and few transactions have been reported in the market. The crude oil price is still in the higher range.

🏠 Price on Request

EUCALYPTUS GLOBULUS OIL

Eucalyptus globulus 🌍 China

In order to execute orders, certain factories are purchasing crude oil at high prices. This is resulting in hoarding of product, till producers get the desired price in the market. An extended period of low price has demotivated farmers from distilling oil. Uncharacteristic rain in Yunnan province at the beginning of the year resulted in production delays, though weather has normalised now.

🏠 USD 14.00 /kilo



It is evident that the future will see supply chain disruptions of Eastern European essential oils following Russia's invasion of Ukraine. This is bound to create market turmoil due to the imposition of punitive sanctions on Russia, mass migration westward and severe constraints on economic activity and transportation.

CLARY SAGE OIL

Salvia sclarea 🌍 Eastern Europe

There is a healthy supply of the crop. Yields in Moldovan fields were good. As a result, after the current harvest cycle, the oil price has come down.

🏠 USD 135.00 /kilo

CORIANDER HERB OIL

Coriandrum sativum 🌍 Eastern Europe

The demand and supply for coriander herb oil is stable.

🏠 USD 110.00 /kilo

CORIANDER SEED OIL

Coriandrum sativum 🌍 Eastern Europe

Coriander seeds are in heavy demand from the spice industry. Sourcing adequate volumes of high-quality coriander seeds is becoming increasingly challenging. While raw material is available post the crop cycle in 2021, oil prices have increased.

🏠 USD 149.00 /kilo

DILL WEED OIL

Anethum graveolens 🌍 Eastern Europe

Raw material is available, though the crop was average. The market price for the oil is stable.

🏠 USD 48.00 /kilo

FIR NEEDLE OIL

Abies sibirica 🌍 Eastern Europe

No change in the market scenario is expected till the summer of 2022. If weather permits, production will continue during the winter, though costs will go up. Cost of production equipment has already increased significantly. In fact, regulations and guidelines need to be followed to gain access to fir needle trees. While there is heavy demand for the oil, supply is limited. This has resulted in a weekly rise in oil price.

🏠 Price on Request

LAUREL LEAF OIL

Laurus nobilis 🌍 Eastern Europe

Demand and supply for the oil is balanced. Raw material availability is also covered.

🏠 USD 189.00 /kilo

LAVENDER OIL

Lavandula angustifolia 🌍 Eastern Europe

Moldova had a healthy crop this season, though COVID related issues continue to persist in Bulgaria due to the low vaccination rate. There is limited supply of good quality lavender oil. This is primarily because the crop in 2021 was disappointing compared to previous year. Thus, good quality lavender is expected to witness a price rise.

🏠 USD 75.00 /kilo

THUJA OIL

Thuja orientalis 🌍 Eastern Europe

There is supply of oil in the market but price is marginally increasing.

🏠 USD 56.00 /kilo



HAITI

Almost all Haitian essential oil plants are in the south. This area is mostly gang occupied, which makes it tricky to supply fuel or collect finished products from the distillation units. The oil market in Haiti is expected to be hit by this transportation and fuel dilemma. While the availability of raw material is not an issue, the logistical problems have led to a rise in amyris and vetiver oil prices.



CARDAMOM OIL

Elettaria cardamomum L. 🌍 India

India's annual cardamom spice production fluctuates around 20,000 MT but its cardamom oil production is estimated at 30-40 MT along with small production of cardamom oleoresin and CO² extract. At present the harvest season is ongoing, and the crop looks good. The yield between August and December produces good quality oil. The crop season commences in June-July and continues till February. During this cycle, the pods are plucked five times. The oil price is expected to stay firm.

🏠 USD 220.00 /kilo

CARROT SEED OIL

Daucus carota 🌍 India

A stable demand, but unpredictable supply dynamics lead to a rise in oil price. Carrot seed oil is mostly exported and does not enjoy heavy local demand. The harvest season is over and yield was moderate. Carrot seed oil saw high prices last season, and the trend is expected to continue this season as well.

🏠 Price on Request

COFFEE

Coffea arabica 🌍 India


The harvest period for both the robusta and arabica is currently on, and the crop is good. The harvest cycle for robusta variety lies between December and April, while for arabica it is between November and January. Coffee demand is on the rise. Apart from the flavour industry, the strong, earthy, oriental aroma of coffee has become a major draw for the fragrance market too. Currently, the coffee price is stable.

🏠 USD 185.00 /kilo

DAVANA OIL

Artemisia pallens  India


The oil is being produced to cover confirmed orders in the market. Due to its low yield, farmers have been wary of the crop. With returns diminishing every year, the last few years have seen a massive spurt in oil price. Currently the harvest season is underway, and the crop is good.

 UDS 590.00 /kilo

FRANKINCENSE OIL

Boswellia serrata  India


Resins and oil produced from frankincense find use in the fragrance and pharmaceutical market. Aromatherapy and home care industries lead the demand for frankincense oil. The crop was harvested in November and resulted in a good yield. Frankincense is a wild tree, which flourishes in north, centre, and west India. Currently the oil price is stable in the market.

 USD 53.00 /kilo

HOLY BASIL OIL

Ocimum basilicum  India

During the season it is impossible to judge the quality of the oil that will be procured. This is primarily because the land obtained depends on various factors that are difficult to control. The wild crop propagates during winter between December and March.

 Price on Request



JASMINE

Jasminum grandiflorum 🌍 India

Grandiflora - during the harvest season the flowers are converted to concrete. Absolutes are produced as per demand. The current crop is good and the harvest will carry on till November. The price is not expected to fluctuate.

Sambac- the last harvest cycle produced a decent crop.

🏠 Jasmine Grandiflora USD 2160.00 /kilo

🏠 Jasmine Sambac USD 2270.00 /kilo

PALMAROSA OIL

Cymbopogon Martini 🌍 India

The oil price is firm and expected to remain so in the coming months. The last harvest was promising.

🏠 USD 45.00 /kilo

VETIVER OIL

Vetiveria zizanioides 🌍 India

Vetiver produced in the south of India has higher demand. There are different varieties produced in the south, and they cater for various industries like flavour, tobacco, and perfumery. The crop is stable, but this high demand leads to a rise in price. On the contrary, north and central India produce limited varieties and the price is stable. The harvest season between January and March is underway, and the resulting crop is good.

🏠 USD 290.00 /kilo



JUNIPER BERRY OIL

Juniperus communis 🌍 India

Price mostly fluctuates, since supplies are reliant on imports from Pakistan. Himachal Pradesh is the only region in India that produces juniper berry. The harvest was good, and the season culminated in November.

🏠 USD 82.00 /kilo

STAR ANISE OIL

Illicium verum 🌍 India

Star anise grows in the spring season, and is native to southern China and northern Vietnam. It is primarily used in local cuisine in these regions. In India, Arunachal Pradesh is the only region that has conducive conditions for star anise growth. It is an evergreen tree, which mostly grows up to 10 feet, but sporadically touches a height of 26 feet. Supplies from China were hit a few months ago, which affected the price. It has stabilised now.

🏠 Price on Request



LEMONGRASS OIL

Cymbopogon citratus 🌍 India

At the moment the oil price is stable. A good new crop is the primary reason. The harvest cycle of lemongrass is every 60 days. The last harvest was in November 2021 and the first harvest of the year is in progress.

🏠 USD 22.00 /kilo


TURMERIC

Curcuma longa 🌍 India

There is global demand for turmeric all through the year from the flavour industry. The harvest season is between February and March, and the crop appears to be good. With product availability firm throughout the year the price is stable.

🏠 USD 28.00 /kilo





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A detailed watercolor illustration of various citrus fruits and flowers. It features several whole oranges, a whole lemon, and a slice of orange. There are also several white citrus blossoms with yellow centers and green leaves. A small bee is visible on the right side. The background is white with a subtle gradient.

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GLOBAL SUPPLY CHAIN DISRUPTIONS **AN ONGOING PROBLEM**

DISRUPTION OF GLOBAL SUPPLY CHAINS


In 2020 and 2021 there have been unprecedented supply chain disruptions that have impacted everyone. The mismatch between supply and demand led to severe shortages of goods. Raw materials are unavailable to produce a wide range of products, leading to them being unobtainable either in retail outlets or through the rapidly expanding e-commerce networks. Many people have suddenly realised that supply chains are essential lifelines that humanity relies on to deliver foodstuffs, vaccines, medical equipment and a vast range of raw materials, consumer goods and manufactured products. This disruption has affected all the stakeholders in the F&F supply chain – the millions of essential oil producers ranging from smallholder farmers to larger scale operators, processors, traders, transport, distributors, manufacturers, and end users, have had to take emergency measures for resilience. At the same time, they are preparing longer term strategies to regain competitiveness. The causes and consequences of this disruption are many and varied and are discussed in detail below.



The COVID-19 pandemic initiated many of the changes but other factors are continuing to increase uncertainty and disrupt supply chains. These include geo-political developments, climate change, rapidly rising inflation, particularly energy prices, and bureaucratic and regulatory/legislative interventions:

- Russia's invasion of Ukraine in late February 2022 and the associated sanctions and economic turmoil is currently difficult to predict but the impact on supply chains could equal or exceed the recent pandemic. It will certainly be significantly greater than the recent disruptive trade wars between various countries, especially USA and China and the disruptive impact of Brexit. Similarly security issues (e.g., in Mexico) are reducing supplies.
- Climate change and the erratic weather patterns of droughts, floods, hurricanes and sizeable temperature variations are impacting all economic sectors, including agriculture, where significant changes in output can occur over a few weeks.
- Growing bureaucracy combined with regulatory and legislative changes are intensifying uncertainty. Examples include China's imposition of energy and pollution controls in many provinces, affecting the availability of raw materials, intermediates and manufacturing output; the recent US ruling regarding no tolerance levels for chlorpyrifos insecticides in citrus oils; CITES and the availability of guaiacwood oil; REACH implementation and the increased complexities of import and export procedures.

As COVID-19 moves from being a pandemic to being endemic and more controllable, the above factors all point to continued supply chain disruptions for several years to come.



“Climate change and the erratic weather patterns of droughts, floods, hurricanes and sizeable temperature variations are impacting all economic sectors, including agriculture, where significant changes in output can occur over a few weeks.”



THE COVID-19 PANDEMIC

COVID-19 led to one of the most severe global recessions in living memory and affected supply chains in several ways. Lockdowns led to factory shutdowns and labour shortages; ports were temporarily closed and/or tightly regulated to limit the spread of the virus. It changed consumer expenditure patterns – so instead of spending on entertainment, eating out and other services, people purchased goods leading to a surge in demand for some items, and a substantial growth in demand for consumer goods and imports, particularly in the USA. Within the essential oil sector, the impact varied widely; oils with medical/therapeutic qualities (e.g., eucalyptus, tea tree, citronella and d’limonene) benefited greatly. In contrast, demand for fine fragrances plummeted since many are purchased at airport duty free shops and utilised when visiting others. Hence the significant reduction in demand for jasmine absolute, rose, sandalwood and vetiver oils.

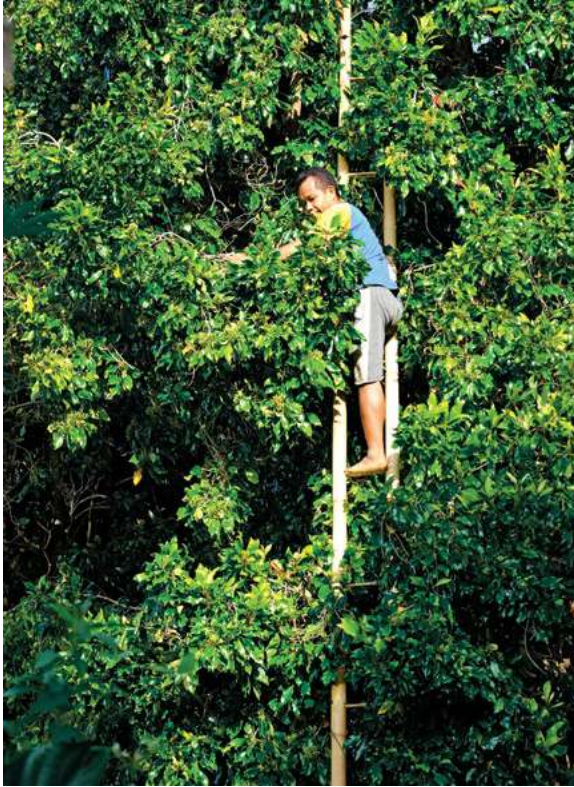
TRANSPORT AND LOGISTICS

The global reliance on shipping to transport goods is at the heart of many of the problems. An estimated 90% of the world’s goods are transported across the sea and the past two years have illustrated its fragility. This is not only because of COVID – but as seen in March 2021 the Suez Canal closure by one ship for six days had a dramatic impact. This, combined with the impact of the pandemic, lots of containers in the wrong places and surging consumer demand led to a dramatic surge in freight charges, estimated to have increased between six and nine-fold since the start of the pandemic. The proportion of freight costs in the final value of the product has surged, consumer prices have risen, transportation times have increased, shipment volumes have reduced and supply chains have become less reliable and prices more volatile. Shipments of essential oils from China and Indonesia now take at least 90 days compared with 45 days previously. However, equally significant is the increased uncertainty over procuring space and containers for shipping products; the arrival of vessels changed many times, either delayed or advanced because of a change and vessels could wait up to 3-7 weeks for a time slot to discharge or upload.

Port delays were seen throughout the world, from China to the USA to Europe and became a worldwide crisis. With the onset of the pandemic in China shipping delays and shortages began to snowball around the world. Shipping delays in the USA began on the West Coast because of lockdowns, labour problems from the pandemic, coupled with truck shortages in part because of Californian regulations limiting the lifespan of diesel-powered vehicles. In Los Angeles in early November 2021, some 111 ships each loaded with thousands of containers totalling almost one million 40-foot containers, were anchored offshore waiting to unload. The previous record waiting to dock was 17 ships.

Transportation of some essential oils has not been helped by their classification as “hazardous goods” leading to a reluctance by some shippers to handle them, particularly when other freight is available.





LABOUR SUPPLY

Labour movement and availability was restricted, thus reducing production capacity and the time required to fulfil supply requirements. Labour shortages have taken a variety of forms but some employers became desperate for workers – truck drivers, lack of port workers, field labourers, distribution workers, Reduced availability increased labour costs and impacted the production, processing and transport of essential oils, although the impact varied between countries and oils. Reduced labour availability affected harvesting in Indonesia and Kerala, while the lockdown in Canada substantially reduced the availability of cedar leaves for distillation.

INPUT AND FINANCE SHORTAGES COMBINED WITH PRICE VOLATILITY

Shortages of a wide range of inputs added to supply difficulties; these included agricultural inputs, production, and packaging materials (e.g., drums, pallets, foils, boxes, bottles, packaging material, laboratory equipment and supplies, and spare parts), and energy.

Financial difficulties multiplied; sometimes operations had to be closed creating difficulties in rotating capital, sometimes raw materials couldn't be obtained or wages paid. Access to capital especially for smaller companies became a major problem. Economic growth either stagnated or declined and there was severe disruption to the supply chain. The F&F sector was less disrupted than many since it was often designated an essential industry. Price volatility varied between products but was often substantial due to demand-supply imbalances and increasing uncertainties.

JUST IN TIME

Over the past fifty years the globalisation of international trade has seen considerable gains in efficiency, lower unit costs and economic growth. Associated with globalisation has been the development of 'just in time' and 'lean manufacturing' systems whereby raw material and other ingredients arrive at their location just prior to their use in manufacturing products. These systems are under greater strain than ever before and are being re-evaluated in the light of the global supply chain disruptions. Users are responding by allowing extra time, increasing storage, overbooking key ingredients or even stopping production.

THE INCREASINGLY IMPORTANT ROLE OF THE TRADER

The supply chain disruption has led to a re-evaluation of the role of trading companies. With globalisation and improved communication systems end users were often able to go directly to source to purchase their requirements, leading to a reduced role of the trading house. However, the increasing complexities of moving goods from A to B has meant a re-assessment of the trading companies' role and end use companies are increasingly turning back to traders to overcome the increasingly difficult trading hurdles faced.



CONCLUSIONS AND SOLUTIONS

The past two years have seen dramatic global changes that have impacted the way business is conducted and these will continue and possibly intensify in the foreseeable future. To survive all the stakeholders in the F&F value chain have had to demonstrate greater adaptability and resilience. There are increased levels of uncertainty in all aspects of the F&F sector whether it relates to pandemics, shifting crop patterns, climate change, transport and logistics, labour availability, technological changes, rising costs, sustainability, and changing demand patterns – all of which impact supply chains.

The pandemic has taught us not to take anything for granted. The current situation doesn't just present problems in the short term but it creates longer term challenges as regards the volume of things we make and how and where we make them. To try to overcome many of the supply chain problems created successful companies have had to take a range of practical actions to respond effectively. These actions have necessitated greater agility, responsiveness and taking greater responsibility to achieve greater supply chain resilience. Companies need to continue to test their systems and processes, to value people and skills, to be able to manage risk and need to adapt quickly to new situations as they arise. In addition to company efforts to minimise disruption, efforts are being made by trade associations; for example, the US Fragrance Creators Association is working with the Biden administration, Congress and industry stakeholders to address supply chain challenges and improve supply chain operability and consumer access to goods.

In a quote often attributed to Charles Darwin:

It is not the strongest of species that survives... but the one that is most adaptable to change.



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THE
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COLLECTION



The current weather forecast predicts constant rain in the first half of 2022. Some areas are forecast to experience very high rainfall as well. This rainy season may significantly increase the price of certain raw material.



CITRONELLA OIL

Cymbopogon winterianus 🌍 Indonesia

There is steady demand for the oil, though supply is limited, and logistic costs have escalated. Farmers lost interest in citronella due to diminishing returns. This led to reduced oil production. Currently the oil price is rising because of the demand-supply dynamics. This trend is expected to continue for the coming months.

📈 USD 17.00 /kilo



CLOVE OIL

Eugenia caryophyllata 🌍 Indonesia

Indonesia usually transitions from the rainy season to the dry season during the months of March and April. The leaves become drier and yields go up. However, there are many factors that will influence the price development of clove in the coming months. There is a strong demand for clove and its derivatives. The supply of CLO from Madagascar has been limited and also there are international logistical challenges. There is a slight drop in price but the exact impact on price due to global challenges would likely be determined by May.

📈 Eugenol USP 99.5% - USD 25.00 /kilo

📈 Clove Leaf 85% - USD 23.00 /kilo



NUTMEG OIL

Myristica fragrans 🌍 Indonesia

The current situation is firm. Due to the ongoing logistic disruptions, moving material out of Indonesia is a challenge. The stock for minimum 10 % myristcin material is extremely low. Prices will see an upward trend in the months to come.

📈 USD 75.00 /kilo

PATCHOULI OIL

Pogostemon cablin 🌍 Indonesia

The price of patchouli oil seems stable at the moment. The logistical challenges are the same as for other products. No major changes in prices are expected in the coming months.

📈 Patchoul IF USD 45.00 - 55.00 /kilo





LEMON OIL

Citrus limon (L.) 🌍 Italy

Italy is the second largest European lemon producer after Spain. Sicily is the main lemon producing area, accounting for 88% of domestic production. *Femminello, Siracusano, Lunario, Interdonato, Limone di Procida* are the leading lemon varieties grown in the country.

Italy 2021/2022 lemon production is forecast to decrease from the previous season due to floods that hit Sicily at the end of October causing damage to lemon groves.

📈 EURO 24.00 /kilo

TOP EU FRESH LEMON PRODUCERS (TONNES)

	My 2019/20	My 2020/21	My 2021/22
Spain	938,420	1,141,574	1,011,458
Italy	445,949	473,276	450,000

EU LEMONS FRESH: PRODUCTION, SUPPLY AND DISTRIBUTION ('000 METRIC TONNES)

	2016/17	2017/18	2018/19	2019/20	2020/21	Jan 2021/22
Production	1,535	1,472	1,683	1,488	1,720	1,567
Fresh domestic consumption	1,551	1,649	1,631	1,521	1,724	1,694
For processing	284	232	376	314	392	283
Exports	165	144	172	174	155	150



FEATURE

54

VERTICAL HEIGHTS

Yields through vertical farming are growing exponentially

Customer awareness is also a driver towards sustainability for businesses across the globe. The demand for a healthier and natural lifestyle with the assistance of sustainable products has pushed brands to take new paths. One of the principal challenges for companies is preserving natural habitats and resources, whilst increasing farming yields simultaneously. This has put the spotlight on the evolving technique of vertical farming. In urban areas with confined spaces, vertical farming has emerged as a viable alternative for crop cultivation. In this process, layers are vertically stacked to cultivate a variety of crops. The process is energy efficient and preserves water required for irrigation.

THE INCEPTION

The germination of vertical farming, as an idea, was initiated in the early 1900s. It was first conceptualised by American geologist, Gilbert Ellis Bailey in 1915. Since then it has evolved with layers being added by thinkers from across the globe. The idea growing in popularity today was proposed in 1999 by American professor Dickson Despommier. Sustainability was not the driving force behind this evolution. He developed the idea that growing crops in urban areas would save the time required to transport food items from rural places to cities. This would result in fresher produce reaching homes and saving costs. Cultivating crops on vertically inclined surfaces emerged as a solution for the space crunch dilemma.





THE PROCESS

In vertical farming, a tower-like structure is erected to grow plants. To replicate an environment for efficient growth a combination of natural and artificial light is used. Soil is substituted by aeroponic, hydroponic or aquaponic mediums for growth.

Hydroponics refers to the process of cultivating plants in water instead of soil. This method is useful in eliminating issues arising from soil-borne diseases and insects.

Aquaponics rely on the symbiotic relationship between plants and fish to enable cultivation. Here, hydroponic production beds are fertilised by nutrient-rich waste generated by fish tanks.

Aeroponics emerged as a solution for growing plants in space. In this process, there is no growing medium. Instead mist or nutrient solutions are used as opposed to water.

SCALING NEW HEIGHTS

How tall can vertical farms go? That's the latest puzzle innovators are trying to solve at the moment. To increase yield in limited space certain studies have proposed the height of vertical farms to reach skyscraper level. They are being called farmscrapers. A recent proposal for a Chinese supermarket chain had a 51-storey skyscraper in the plan. This proposed structure could potentially house a vertical farm tall enough to grow crops to feed up to 40,000 people a year. It is also supposed to house other office spaces, supermarkets and food courts.

With soil not being a constraining factor, these farms have the potential to augment yields with limited water and land inputs. Indoor climate-controlled conditions also make it feasible to manipulate plant growth. The nutrient intake, pH levels, light availability to customise day and night settings, temperature of air and root, and even CO₂ concentration levels, can all be customised to aid a healthy growth process. With the ability to keep all factors in check the resulting plants will possess higher productivity. They will be densely populated with leaves and produce more fragrant flowers.

Studies have shown that vertical farming yields can be up to 10 times higher than traditional farming methods. This is made possible by the ability to cultivate all year round without seasonal restrictions and increase density by adding more layers.

The proposed Chinese farmscraper is expected to produce around 275 tonnes of food annually. Currently, some of the biggest vertical farms in Europe produce in the range of 900 tonnes of food per year.



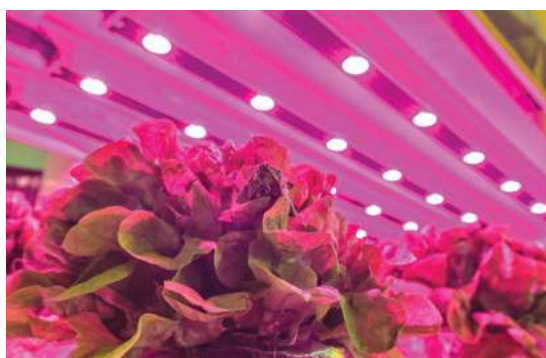


THE SUSTAINABLE WAY

As time passes vertical farming ranks high on the sustainability radar. It provides substitutes for natural resources and requires almost 80% less water than traditional methods. In fact, water is recycled and reused in several instances. With crops being cultivated within the confines of the city and transportation reduced, fossil fuel usage and carbon emissions come down as well. It is an all-round win for a better future.

THE BOTTLENECKS

But vertical farming has its share of roadblocks. The biggest one being the initial investment cost. Erection of vertical structures, automated monitoring systems, programmable LED lighting solutions, remote controlled software and systems, and a climate control environment are capital intensive installations.





THE ROAD AHEAD

A concept that emerged as a way to deal with impending food crises has now expanded its scope. Companies are looking at perfumery and pharmaceutical industries as potential clients. Flowers cultivated in distant lands form a large portion of raw materials for the perfume industry. They tend to have short flourishing windows, with some as small as 7–10 days in a year. This makes it a challenging prospect to make raw materials available to perfume producers in time. Thus, a close to home production facility is a viable alternative. Vertical farming makes this possible. Seeing its potential for the industry, several research and development projects have been undertaken. Studies are being conducted to develop programmes to effectively extract oils from rare flowers.

After perfumes, the cosmetics industry is also enticed by vertical farming. The possibility of manipulating nutrient intake in plants, makes it conceivable to activate the growth of favourable molecules to produce species rich in certain botanical extracts. For instance, rosemary is a popular antioxidant. By exposing rosemary to a specific environmental condition, one can increase the carnosic acid generated by the leaves. Carnosic acid is a strong, natural antioxidant. Thus, the resulting extract from this variety of rosemary will be more potent, and lesser quantities will be required in the production of other materials. This will reduce the stress on the plant, as lesser quantities can deliver more products.

The fragrance and cosmetics industries can adopt vertical farming techniques for a sustainable future. Companies in Europe are already experimenting with the process. Plants are being cultivated and oils extracted to capture genuine natural scents. Hair care and several other products created from these oils have also been introduced in the market.

Vertical farming awareness is on the rise. While it is an expensive proposition, its long-term benefits are being weighed. Entrepreneurs with already established vertical farming networks are proposing collaborations to deliver naturally rich and sustainable produce. It is the right route and vertical farming is an important milestone for a sustainable future. Encouraging client awareness and engagement to get on this path will bolster its popularity and rapid growth.

<https://www.prakati.in/vertical-farming-concept-techniques-advantages/#::-:text=Vertical%20farming%20is%20one%20such,energy%20and%20water%20for%20irrigation.>

https://www.cosmeticsbusiness.com/news/article_page/Firmenich_puts_faith_in_vertical_farming_with_Jungle_partnership/181348

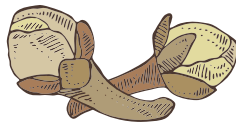
<https://www.agritecture.com/blog/2021/6/28/vertical-farms-are-looking-beyond-food-and-into-perfumes>

<https://www.bloomberg.com/news/features/2021-12-13/farmscraper-design-takes-vertical-farms-to-new-heights>

https://www.happi.com/issues/2020-06-01/view_features/vertical-farming/

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MEXICO





LIME OIL

Citrus aurantifolia – Key lime  Mexico
Citrus latifolia – Persian lime

Mexico is the world's second largest producer of limes, and it is the second largest produced citrus crop in Mexico after oranges. The main lime producing states in Mexico are Michoacán, Veracruz, Oaxaca and Tamaulipas. Persian lime is the most widely cultivated variety and approximately 50% - 60% of Persian limes from Veracruz are for export. Mexico is the top supplier of limes to the United States accounting for over 80% of total exports. Key limes go mainly to the fresh domestic market, with approximately 16% - 20% for processing.

According to the USDA, the production forecast for market year (MY) 2021/2022 is 3.21 million metric tonnes (MMT), 7% higher than the previous MY, due to good weather conditions in the growing regions, investments in irrigation systems, and new plantations in the states of Oaxaca and Veracruz. Consumption and exports are at record highs due to the greater supplies. Limes for processing are also expected to be more than the last crop because of the increase in production.

2021 was one of the most challenging years for the lime oil industry in Mexico due to the high demand for fresh fruit and the low availability of fruit for processing, which caused a general delay in the global supply and an increase in prices. Other outside factors, such as inflation and labour shortages, have been amplifying the issue and causing prices to be even higher. However, as yields start to increase, the supply situation is expected to improve and be better than the last two crops, and prices are expected to begin stabilising.

Aggressive price-fixing by criminal groups in Mexico has also contributed to the price escalating. Cartels are imposing increasing controls over producers during the bumper crop season. Some farmers have abandoned their fields to avoid dealing with the cartels.

The global container shortage was also a challenge in 2021 and will remain so in 2022. Container rates are likely to remain high until at least the first half of 2022, though lower than in 2021.

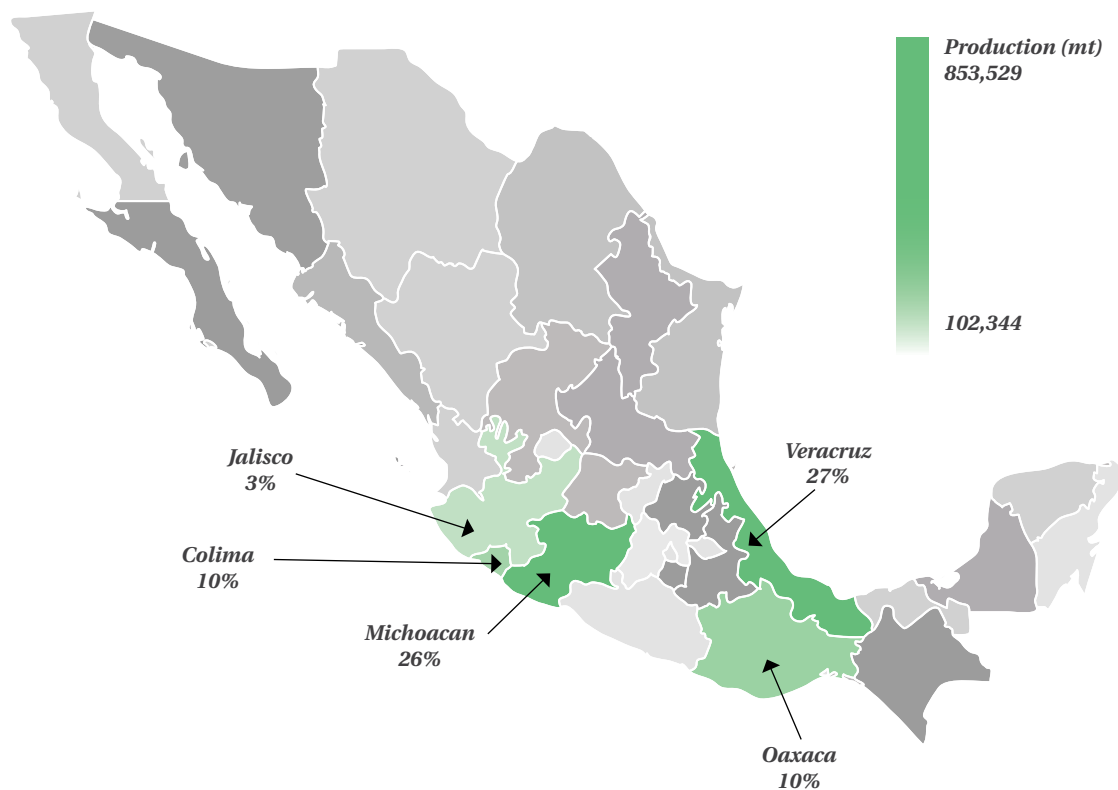
▲ Lime Oil Distilled USD 48.00 /kilo

▲ Lime Oil CP USD 28.00 /kilo

FRESH MEXICAN LIMES: PRODUCTION, SUPPLY AND DISTRIBUTION ('000 METRIC TONNES)

	2016/17	2017/18	2018/19	2019/20	2020/21	Jul 2021/22
Production	2,513	2,311	2,686	2,851	2,998	3,217
Fresh domestic consumption	1,397	1,190	1,542	1,549	1,858	2,023
For processing	388	396	397	507	350	400
Exports	731	729	751	798	795	798

MEXICAN LIMES: MAJOR PRODUCTION STATES





EUCALYPTUS RADIATA OIL

Eucalyptus radiata 🌍 South africa

Organic – At present watchful buyers are dominating the market, and large orders are not being placed. Demand for the oil is expected to be within last year's range. A good summer rainfall has given production an early boost, though autumn rain will govern production in the second half of the year. Inadequate or late rains are both detrimental and will impact the crop in the second half.

Conventional – Customers for the product remain constant and have a steady demand pattern. The market for the conventional variety is smaller.

🏠 USD 63.00 /kilo

TEA TREE OIL

Melaleuca alternifolia 🌍 South africa

A good crop and stable yields are expected all through the year. The majority of tea tree production areas have received decent rainfall.

Organic Tea Tree oil – the demand for the oil is only expected to rise in the second quarter of 2022. There is plenty of stock build-up in the market, which will take 2-3 months to be absorbed. This excess stock is a result of COVID-19. Currently there is limited demand for organic oil in the market.

Conventional Tea Tree oil - A small buffer stock could remain at the end of the year, after meeting industry requirements. Production in South Africa is equipped to handle all orders. At present there is heavy demand for the oil in the market.

🏠 USD 36.00 /kilo

EUCALYPTUS SMITHII OIL

Eucalyptus smithii 🌍 South africa

In tune with most essential oils, the demand for *Eucalyptus smithii* has been low in the first few months of 2022. However, novel applications in the global market and local usage is expected to witness an upward growth in the coming months. Demand for the oil could rise in the second half of the year. The addition of new cultivation areas has strengthened the supply. *Eucalyptus smithii* is a crucial product for the South African market.

🏠 USD 16.00 /kilo

TAGETTE OIL

Tagetes erecta 🌍 South africa

This season the supply is expected to equate with demand. Extended periods of rain have increased the production period, which can commence earlier and carry on until late autumn. This year, substantial quantities of tagette oil are expected to be produced.

🏠 Price on Request



LEMON OIL

Citrus limon (L.) Burm. F. 🌍 Spain

Spanish lemon production represents around 15% of total Spanish citrus output. Spanish lemon production is concentrated in the regions of Murcia and Valencia, and the provinces of Malaga and Almeria in Andalusia. The leading lemon varieties grown are *Fino*, accounting for 70% of total production, and *Verna*, a Spanish variety representing the remaining 30%. The *Fino* variety is predominantly used for processing. Around 25% of Spanish lemon production is destined for industry use as Spain is the second major global industrial lemon manufacturer, mainly juice, essential oils, and dehydrated peel.

Spanish 2021/2022 lemon production is forecast at 1 million metric tonnes (MMT), a decrease of 11% compared to the previous season. The decline is mainly due to unfavourable weather conditions that affected flowering and fruit set in some production areas, mainly impacting the *Verna* variety. Lemons for processing are forecast to decrease in line with the decline in production.

In recent years, Spain increased its total planted area for lemons to meet its domestic and export demands, standing at around 48,000 hectares (ha) in 2020. Of this planted area, 17% is under certified organic lemons. According to the Spanish lemon sector, certifications are key elements to differentiate Spanish lemons and promote economically, environmentally, and socially sustainable lemon production.

🏠 EURO 13.00 /kilo

CINNAMON BARK OIL

Cinnamomum zeylanicum 🌍 Sri Lanka

Raw material shortages along with fertiliser problems have hindered the oil production process. Unlike the plentiful supply of raw material in the last quarter of 2021 shortages can be expected until the next harvest this year. The cinnamon season concluded in the second half of November. The dry spell from November to April makes it an off-season for cinnamon. A significant depression of the local currency (LKR) is expected, which will benefit exporters and buyers. This is a result of the Central Bank of Sri Lanka's LKR/USD peg. It failed to favour foreign buyers.

🏠 USD 365.00 /kilo

CINNAMON LEAF OIL

Cinnamomum zeylanicum 🌍 Sri Lanka

Obtaining large volumes will be a challenge before the upcoming season in April. A price rise will only augment the problem. The holiday shutdown in December 2021 did not result in a price decline. The last quarter has witnessed firm oil prices. With the off-season commencing and fertiliser troubles arising, production is expected to be hit till the next season.

🏠 USD 36.00 /kilo



CITRONELLA OIL

Cymbopogon nardus 🌍 Sri Lanka

Persistent rainfall in December 2021 impacted production but the overall output of citronella remains good. Recent demand trends have been healthy for the industry. The consistent rise saw demand levels go up in the fourth quarter, which resulted in a significant price rise.

🏠 Price on Request

CLOVE BUD OIL

Eugenia caryophyllata 🌍 Sri Lanka

A disappointing crop in December 2021 will adversely impact the price.

🏠 Price on Request

NUTMEG OIL

Myristica fragrans 🌍 Sri Lanka

The oil price has been constant for the last few quarters. The final harvest of 2021 was weak, due to the heavy rain in December.

🏠 USD 75.00 /kilo



LAUREL LEAF OIL

Laurus nobilis 🇹🇷 Turkey

There is a global demand for the product. Amongst Turkey's produce, laurel leaf is the second most significant. The harvest season stretched from September to November, and the yield was good. Demand and price are firm.

📈 USD 63.00 /kilo

ROSE OIL

Rosa damascena 🇹🇷 Turkey

It is a consistent crop with a good yield, but in winters harvest becomes a challenge. The fragrance and cosmetics industries in Europe and the Middle East always have a demand for the oil. Turkey's biggest competitor is the rose oil produced in Bulgaria, though the local variety is cheaper than the Bulgarian one. The demand and price for the oil are holding firm.

📈 EURO 5300.00 /kilo

OREGANO OIL

Origanum vulgare 🇹🇷 Turkey

Flavour and seasoning companies in Europe and USA are the biggest buyers of oregano oil. Turkey has been the market leader in exports for the last three years. The crop has been consistent and stable.

📈 USD 64.00 /kilo

SAGE OIL

Sage officinalis 🇹🇷 Turkey

Commercially, sage oil isn't a significant product. The harvest season spreads across August and September. It was a good yield, and the price is stable.

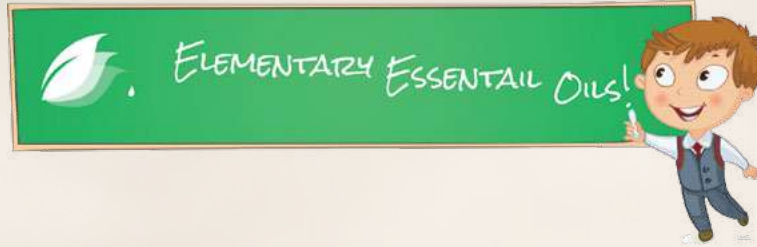
📈 USD 78.00 /kilo

THYME OIL

Thymus vulgaris 🇹🇷 Turkey

Unfavourable weather conditions resulted in a disappointing crop. This has led to a supply shortage. The harvest season for thyme is in June. The oil is used mostly for agricultural activity, poultry, beekeeping, aromatherapy, medicine and food. At present oil prices are on the higher side.

📈 USD 115.00 /kilo



CORDIA VERBENACEA A MEDICINAL HERB

A healing herb with a woody, herbaceous aroma, *Cordia verbenacea* is Brazil's elixir of life. Popular for numerous medicinal properties, the extracted oil is also used in fluids, teas, and syrups.

The Brazilian coastline from the Amazon to Rio Grande do Sul is lined with the familiar sight of *Cordia verbenacea*. A rain forest plant native to Brazil, it is locally popular as erva baleeira. *Cordia verbenacea* belongs to the *Magnolia* family, but surprisingly is also referred to as black sage. Amongst its many names, the locals in Brazil also call this herb 'maria-miraculous'. Boosted with anti-inflammatory and anti-analgesic properties, it has traditionally been used in folk medicine. Teas, compresses, and alcoholic extracts have been crafted with *Cordia verbenacea* for a healing ritual.





HABITAT

South America is the primary habitat of *Cordia verbenacea*, but conducive conditions have now helped it flourish in areas of Costa Rica, Honduras, Mexico, Panama, Nicaragua, and Guatemala. One can now see rich plantations of *Cordia verbenacea* in the Caribbean too.

A potent medicinal herb, *Cordia verbenacea* is comparatively miniature in size and grows up to a height of 1.2m-1.8m in farming regions, and 2m in native spots. Its aroma and flavour are reminiscent of a soup stock. It can easily be propagated through cuttings. Opting for woody cuttings makes it an easy cultivation process, while non-woody cuttings are a little harder to grow. It is also a flowering plant and produces tiny red berries.

Cordia verbenacea is a resistant plant. It can mostly thrive with full or part sunlight. It flourishes whether planted directly in soil or potted in a vessel. It is an adaptable species, resistant to climate alterations, water shortage, pests and insects. It is laden with edible leaves, and flowering has no impact on their flavour. It is mostly consumed in its leafy form, though essential oil extraction is popular too, as it makes for a convenient infuser in teas and medicines. The herb is usually harvested every six months, and there is no fixed calendar for it.

DISTILLATION

Essential oil from the *Cordia* species is extracted either via steam distillation or hydro distillation. If the process of hydro distillation is followed then fresh leaves are preferred for oil extraction. But in certain cases, aerial parts, stem or stem bark can also be used to procure the oil. The extracted oil does not possess a pleasant aroma and is primarily popular for its healing effects, rather than scent.

Considering the rare nature and economic potential of *Cordia verbenacea* the Ministry of Agriculture in Brazil has laid down stringent guidelines for the growth, harvest, and commercial usage of the plant and its products. Very few companies in Brazil meet these requirements.



WHAT MAKES IT UNIQUE?

Herbal medicine is popular in Brazil. It is a tradition that has been passed on for generations. Fluids, teas, syrups, and dry extracts are produced in accordance with qualities possessed by various plants. *Cordia verbenacea* is a popular plant in the production of medicines. The process followed measures the appropriate quantities, making it safer for oral consumption.

The leaf extract of the plant has significant anti-inflammatory qualities. Its low toxicity also makes it a wondrous substance to shield the mucous membrane of the stomach, the gastric mucosa. *Cordia verbenacea* can be used topically or orally to reap its numerous benefits. Various studies have compared its effectiveness when consumed orally to anti-inflammatory drugs like dexamethasone.

It is popular as a cure for infections, skin ailments, ulcers, insomnia, cough, flu, fever. It has a healing formula that also promotes muscle relaxation, digestion and pain relief.

Another important facet of *Cordia verbenacea* is the bioactive compounds it produces. This makes the resulting extract rich in antioxidant and antibacterial qualities. Furthermore, if the extract is produced via the method of supercritical fluid extraction, it presents anti-tumour activities too.

After all the well-known medicinal properties in being an antibiotic, analgesic, antifungal, anti-inflammatory, diuretic, as well as an antiseptic, it wouldn't be wrong to refer to *Cordia verbenacea* as a healing herb and oil.

<https://www.luminescents.net/shop/oils/essential-oils/cordia-essential-oil-cordia-verbenacea/>
<https://www.sciencedirect.com/science/article/pii/S0141813020332232>
<https://tropicalselfsufficiency.com/bouillon-plant-cordia-verbenacea/>

GRAPEFRUIT OIL

Citrus paradisi 🌐 USA

USA grapefruit production is expected to be down 11% to 9.2 M. boxes compared to last season's final production, due to smaller harvests in California and Texas. Fruit for processing and exports are forecast lower due to reduced supplies.

The forecast for Florida grapefruit production remains unchanged from the previous season at 4.1 M. boxes. The distribution comprises 3.3 M. boxes of red and 800,000 boxes of white.

California grapefruit decreased from 3.9 to 3.5 M. boxes, while the Texas grapefruit forecast tumbled from 2.4 M. boxes in 2020/2021 to 1.6 M. boxes in the February 2022 forecast.

Supplies of grapefruit oil, particularly white grapefruit oil, are limited. Prices are based not only on nootkatone content - and the typical 0.2% nootkatone product is difficult to find - but also on agricultural residue content and new stricter regulations are in place for citrus oils. The volatility of grapefruit oil supplies and prices has led to decreased demand as some customers have removed grapefruit oils from their formulas.

📈 (Grapefruit Oil White) USD 58.00 /kilo

📈 (Grapefruit Oil Pink) USD 42.00 /kilo

USA ESTIMATED GRAPEFRUIT PRODUCTION 2019/2020 TO FEBRUARY 2022 FORECAST (‘000 BOXES)

<i>Crop & State</i>	<i>2019/20</i>	<i>2020/21</i>	<i>February 2022</i>
Florida-All	4,850	4,100	4,100
Red	4,060	3,480	3,300
White	790	620	800
California	4,700	3,900	3,500
Texas	4,400	2,400	1,600
Total	13,950	10,400	9,200

LEMON OIL

Citrus limon (L.) Burm. F. 🌐 USA

Arizona lemon production is expected to increase. The February USDA forecast for 2021/22 stands at 1.4 M. boxes, up from 1.3 M. boxes in December and from 800,000 boxes final production in 2020/21. The forecast for California lemon production rose from 21.3 M. boxes in 2020/2021 season to 23 M. boxes. Because of the larger crop, lemons for processing are expected to be higher.

📈 USD 28.00 /kilo



ORANGE OIL

Citrus sinensis 🌐 USA

USA orange production is forecast to drop to a record low of 91.5 M. boxes due to poor fruit set in California and the continued decline in area and yields as a result of citrus greening in Florida. Consumption, exports and fruit for processing are all lower with the drop in production, while imports are projected to be flat due to weak consumer demand.

According to the USDA February 2022 forecast, Florida orange production for the 2021/2022 season is expected to be down by 18% compared to last season's final production, and 2% lower than the January USDA forecast, at 43.5 M. boxes, which will be the smallest crop in 75 years. The Florida crop continues to decline because of hurricanes, a real estate boom, frost and citrus greening, which is the most concerning reason. The California orange forecast is 47.6 M. boxes, down from last season's 50.1 M. boxes; and the Texas orange forecast, at 400,000 boxes, is down more than 50% because of severe winter storms which damaged a good portion of the crop.

The Florida orange total forecast is comprised of 17.5 M. boxes of non-Valencia oranges (early, midseason and Navel varieties), and 26 M. boxes of Valencia oranges. The California orange total forecast is comprised of 39.0 M. boxes of non-Valencia oranges, and 8.6 M. boxes of Valencia oranges, while Texas accounts for 300,000 boxes of non-Valencia oranges and 100,000 boxes of Valencia oranges.

The lower orange production volume will affect the supply of juice and orange oil and other by-products. USA production of orange juice is projected to fall 7% to a record low 215,000 tonnes due to the drop in oranges available for processing. Exports are forecast down with the lower production, while significantly higher imports are insufficient to counter falling consumption.

A major recent industry concern is the implementation in the USA of a new ruling regarding no tolerance levels for chlorpyrifos insecticide. This could result in many rejections of orange oil on quality grounds thus making a difficult situation even worse. According to growers, chlorpyrifos can remain on the trees for 2 to 3 years.

📈 USD 18.00 /kilo

USA ESTIMATED ORANGE PRODUCTION 2019/2020 TO FEBRUARY 2022 FORECAST ('000 BOXES)

<i>Crop and State</i>	<i>2019/20</i>	<i>2020/21</i>	<i>February 2022</i>
Non-Valencia Oranges			
Florida	29,650	22,700	17,500
California	43,300	40,600	39,000
Texas	1,150	1,000	300
Total	74,100	64,300	56,800
Valencia Oranges			
Florida	37,750	30,100	27,000
California	10,800	9,500	8,600
Texas	190	50	100
Total	48,740	39,650	35,700
All Oranges			
Florida	67,400	52,800	44,500
California	54,100	50,100	47,600
Texas	1,340	1,050	400
Total	122,840	103,950	92,500

TEXAS CEDARWOOD OIL

Juniperus mexicana 🌐 USA

The oil produced by a few suppliers is mostly being consumed by big buyers. These customers are paying a premium to get priority access to the product. There is a massive shortage of cedarwood oil supply in the market. This is primarily because of the reluctance of wood suppliers to work. The price of wood has gone up from USD 65/ton to USD 95/ton, but with the US government providing money without work to these suppliers they have no inclination to work.

📈 Price on Request



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