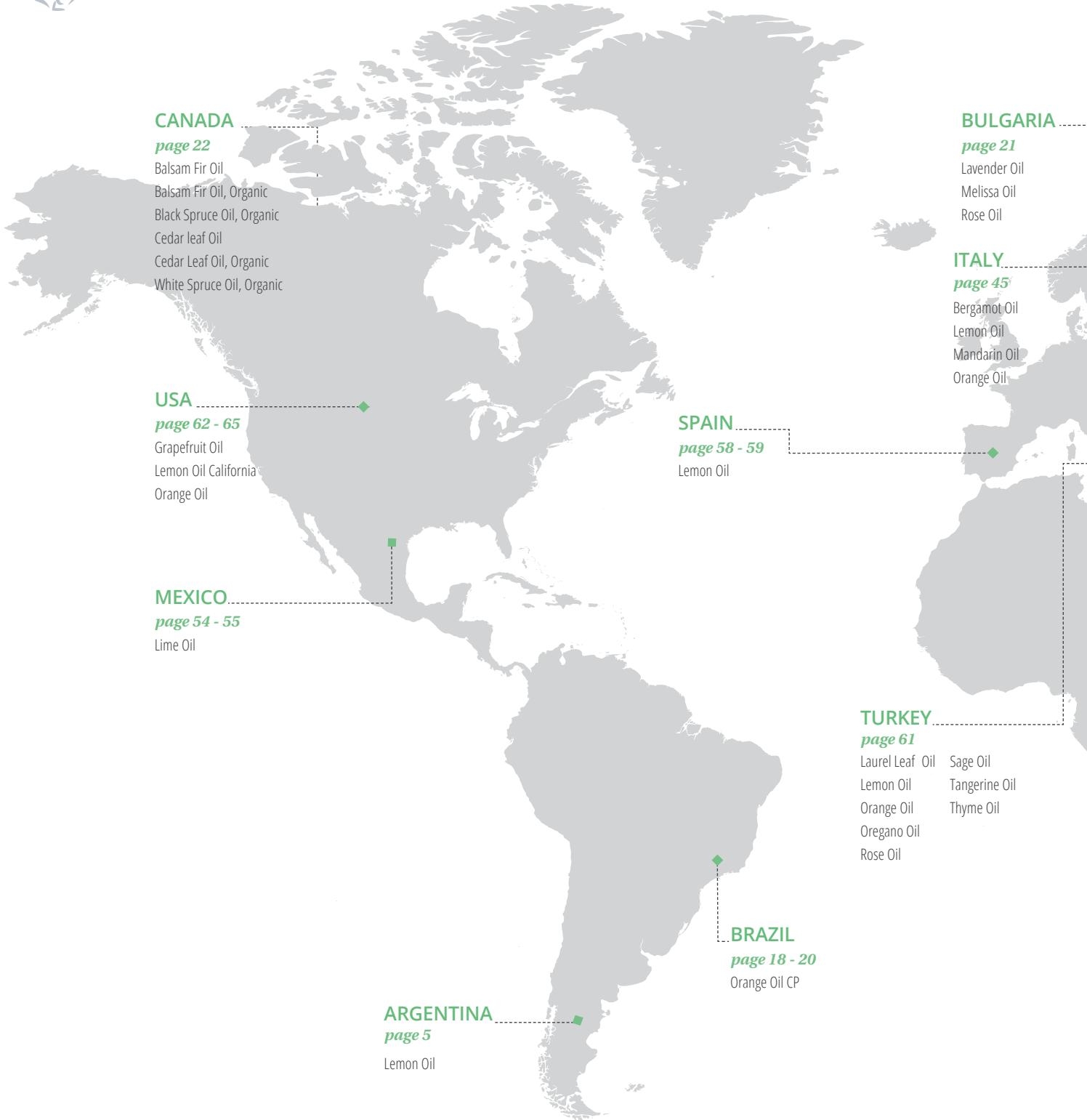


ESSENTIAL OILS
MARKET REPORT
AUTUMN 2021

THE PATH TO CHANGE!


Ultra International B.V.
Essential Oils, Ingredients, F & F



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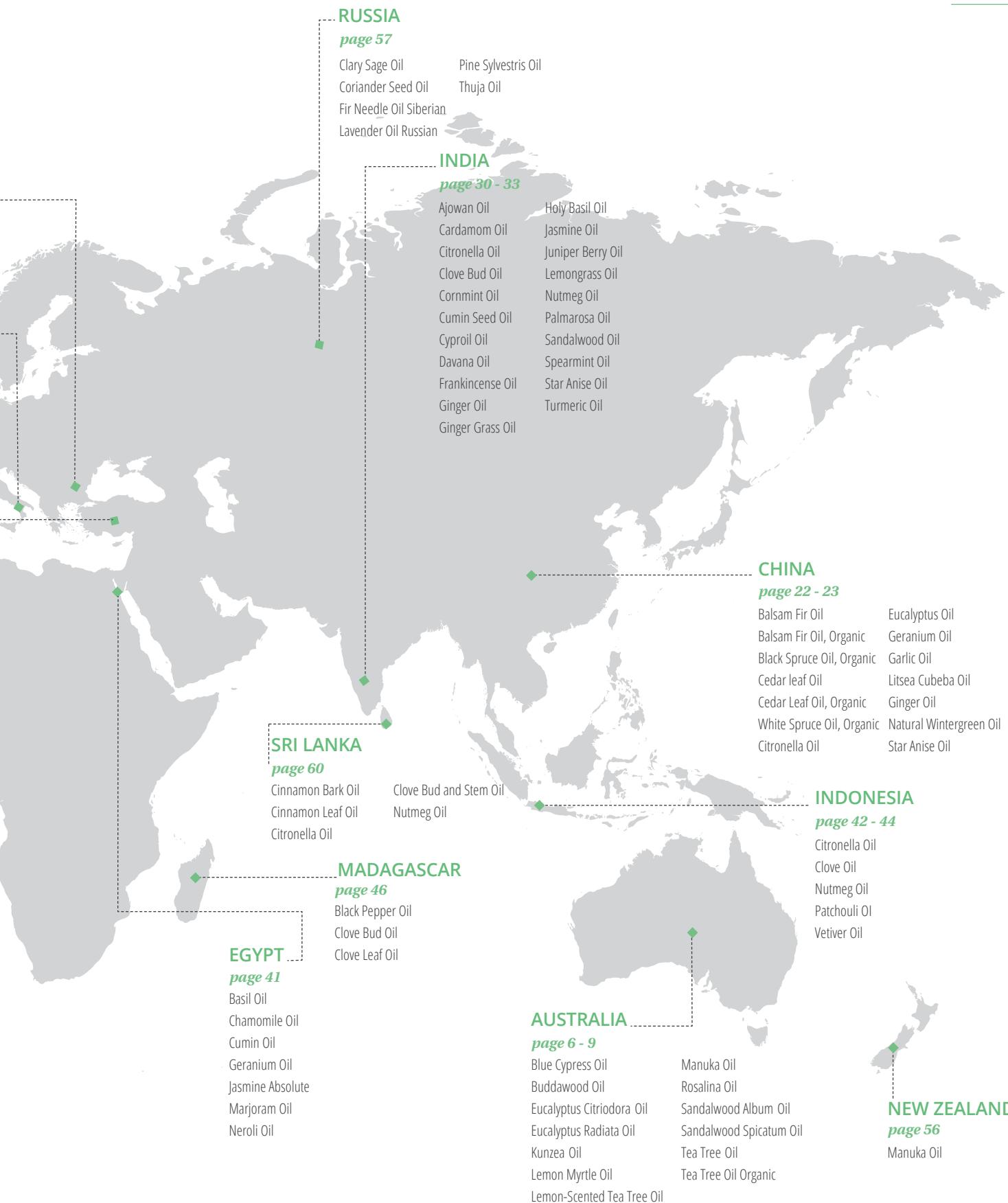
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A Note From My Desk

Ironically this year, as the verdant greens mature into a mosaic of mellow yellows and rich russets, the world seems to be emerging from hibernation or, more precisely, lockdowns. As we transition from the blazing sunshine into cosier autumnal climes, the wind seems to be bringing back whispers of a world we once knew. Welcome to Ultra's Autumn Market Report 2021.

It is heartening to know that along with the change in season and massive vaccination drives across countries, the pandemic seems to be on an ebb. We are emerging from our cocoons and cautiously taking steps towards the old normal though restrictions are still in place. Travel, one of the most severely affected business sectors, is still complicated though seems to be inching back as countries open up their borders once again.

In our area of business, the disruption in logistics has resulted in a challenging situation and umpteen hurdles in completing deliveries to clients. With air space and road borders shutting down, shipping lines are overstressed and the arrival of containers is delayed. Shortage of manpower has resulted in containers piling up at ports, leading to uncertainty in delivery schedules. A sudden increase in ocean freight has caused a significant increase in paperwork; and now it takes almost six months to get material from Asia to the EU or USA compared to two months in pre-pandemic times. Many distillers have now chosen to hold their stocks at the shipping ports which gives them competitive advantage.

In another first of its kind, IFEAT Vancouver 2022 will be organised in a hybrid mode. While many of the events can be seen online, a team of organisers will be available in person at the venue to welcome all the attendees and guide them through a smooth flow of the conference. After a three-year hiatus it is anticipated that a large number of delegates will welcome the opportunity to meet up again in autumn 2022 in the beautiful city of Vancouver, Canada.

Change is always constant and we see that in the sphere of essential oils as well. Shaking up the market, the oils from Moroccan origin have emerged as some of the most coveted ones in the current market.

Pets have emerged as another door opening for the essential oil community. Numerous pet parents are turning to essential oils for deodorising and promoting emotional well-being of their pets.

Just as the entire global medical research community has been working to weed out the dreaded virus, farmers and botanists have been waging a similar battle against weeds that choke their plants. This report brings you insights that indicate mint might be the answer we are waiting for.

This report is a salute to those hardworking ones who worked tirelessly through these tough times to bring you the Ultra wellness farm to fragrance. While it augurs the emergence into light, let us not lower our guard.

With prayers for quick healing of the world, mask up. Let's turn the page to move forward to a new chapter of life. Here's hoping for the familiar normal soon.

Priyamvada Sanganeria
Director, Ultra International BV

LEMON OIL

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

Due to the lack of rain during the spring of 2020/2021 that affected fruit setting and growth of the fruits, the size of the lemons was expected to be smaller, and the volumes were expected to be 30% less than the previous crop. However, timely rainfalls during the summer allowed lemon trees to recuperate, and the new estimate for 2020/2021 production increased from 1.03 to 1.15 million metric tonnes.

Because of the larger crop size and the decline of exports of fresh fruits, lemon for processing is expected to increase 13.5% from initial estimate, to 831,000 metric tonnes.

Despite crop size being better than anticipated, Argentina faced many difficulties with the current crop for several reasons.

Internally, labour strikes in Tucumán slowed down production and export of fruits; domestic economic contraction has negatively impacted the lemon sector; the competitiveness of the lemon sector in Argentina has been affected by production costs constantly increasing due to high expenses and high inflation rates; investment and expansion have decreased following poor financial performance after having to discard fruit in MY 2018/19.

Externally, supply seemed to be higher than demand. The predictions of a lower crop size triggered a buying frenzy, and as a result, most companies covered their requirements and this could be the main reason for a lower demand. Last year's suspension of Argentine lemons / citrus exports to Europe because of citrus black spot was beneficial to other origins such as South Africa. Even though Europe suspended the ban in May 2021, Argentina may suffer difficulties in regaining business which was lost. Processors have large stocks of processed lemon products because of the oversupply of fruit in the previous season when Argentina voluntarily withdrew from the EU market approximately 20,000 MT of fresh lemons, which were reoriented to processing and/or exported to non-traditional markets like the United States. New crop lemon oil prices from Argentina are up but have not increased to their post-decline level.

The new crop 2021/2022 is expected to start around March/April of 2022 and, so far, there is no indication at this time as to the crop size, because processors and growers are hesitant to provide a forecast. However, since the time for frost and freeze have passed, a typical crop is expected for next season.

▲ USD 14.00 /kilo

ARGENTINA HISTORICAL AND CURRENT LEMON PRODUCTION ('000 MT)



AUSTRALIA





BLUE CYPRESS OIL

Callitris intratropica Australia

Australia's signature blue oil continues to garner unwavering attention from the aromatherapy sector. With a stable market, production remains constant with Australia producing about 1,000 kg of oil per year.

AUD 485.00 /kilo

BUDDAWOOD OIL

Eremophila mitchellii Australia

Buddawood has found increased favour in the fine fragrance industry. However, with the shutting down of the duty-free sector, luxury items are a low priority. Consequently, demand is weak. Production in Australia is stable with 2 MT produced this year.

USD 435 .00 /kilo





EUCALYPTUS CITRIODORA OIL

Eucalyptus citriodora  Australia

Despite a steady demand and constant market, Australia produced less than 6 MT of this variety this season.

 AUD 46.00 /kilo

EUCALYPTUS RADIATA OIL

Eucalyptus radiata  Australia

There have been no major upheavals or fluctuations in the market. With robust demand, this year Australia produced more than 6 MT of the *Eucalyptus radiata* variety.

 AUD 82.00 /kilo

KUNZEA OIL

Kunzea ambigua  Australia

The aromatherapy market is a strong growth-driver of this oil. Even now, this oil enjoys robust demand from this segment with Australia producing over 1,000 kg per year.

 AUD 445.00 /kilo

LEMON MYRTLE OIL

Backhousia citriodora  Australia

This beautifully fragrant oil has been getting quite some attention from aromatherapy companies due to its growing use in the sector. Production and processing in Australia is progressing at a steady pace and this year the production volumes have touched 3 MT.

 USD 360.00 /kilo

LEMON-SCENTED TEA TREE OIL

Leptospermum petersonii  Australia

Driven by a strong demand and stable market with not much fluctuation, Australia produced 1,000 kg of lemon-scented tea tree oil.

 Price on Request

MANUKA OIL

Leptospermum scoparium  Australia

Manuka enjoys a longstanding demand, especially due to its favoured status in the aromatherapy industry. The market is stable and prices for this oil remain at steady levels with not too much change.

 AUD 825.00 /kilo



ROSALINA OIL

Melaleuca ericifolia  Australia

This year Australian output is over 1,000 kg with robust demand and a steady market. Rosalina is quite a favoured oil in aromatherapy.

 AUD 365.00 /kilo

SANDALWOOD ALBUM OIL

Santalum album  Australia

A perfumer's favourite and a coveted Australian essential oil, sandalwood album is also significantly down on demand despite a stable market.

 USD 2500.00 /kilo

SANDALWOOD SPICATUM OIL

Santalum spicatum  Australia

This is another oil that has, over the years, found acceptance in the fine fragrances industry. The market remains stable but demand has dwindled due to closure of the duty-free segment.

 USD 1250 /kilo

TEA TREE OIL

Melaleuca alternifolia  Australia

Tea tree oil continues to command a reasonably good demand. However, Australian farmers are facing increasing competition from the varieties flooding the markets from other sources. Last year, due to flooding, tea tree oil production was significantly reduced to 700 MT in 2020. This year, the outlook is improved with a crop production of 1,000 MT with stable prices.

 AUD 56.00 /kilo

TEA TREE OIL ORGANIC

Melaleuca alternifolia  Australia

There is stiff competition from oil from other origins. This year Australia produced 8 MT of tea tree oil of the organic variety.

 AUD 90.00 /kilo



THE TOP FIVE TRENDS IN ESSENTIAL OILS TODAY

Eddie Bulliqi

The global essential oils market is expected to grow from \$9.62 billion this year to \$18.25 billion in 2028, with a CAGR of 9.57%.¹ Everything is looking up for the sector – not only do 34% of Americans believe in the health benefit of essential oils, but the wellness economy (encompassing a wide range of products and services, all brought together under the aim of improving holistic wellbeing) has given a platform for aromatherapy to be better understood by the mainstream.² Given that wellness products are often dual-purpose (partly due to the wellness industry's frequent target of multisensoriality), cross-category offerings are the future of applied essential oils. The key for tomorrow's innovators, whatever business category they might be involved in, is to consider how the values of their product are impacted by its sensoriality, and how harnessing the inherent strengths of essential oils (such as stimulating a sense of energy, calm, relaxation, invigoration, or naturality) could contribute to optimising those values in the eyes, noses, and minds of its consumers.

This article details the five biggest current-day trends with essential oils and the standard-bearers paving the way for innovation.



1.***Functional Fragrance***

The micro trend for functional fragrances we started tracking a few years ago has bloomed into a steadfast bastion of the industry's future. The volume of fragrance launches touting functional benefits (such as anxiety-reduction or sleep-enhancement) as a result of essential oils in the formula has skyrocketed. Given that two out of three adults experienced increased stress during the pandemic, many are looking for products that can help them manage their minds and moods.³

Standout examples include The Nue Co.'s Forest Lungs fine fragrance, designed as a "unisex, anti-stress ... supplement ... [delivering] the healing effects of nature to the body [and] support[ing] the reduction of everyday stress". It includes vetiver, cedarwood, patchouli and bergamot oils that are supposed to mimic the calming effect that phytocides (volatile organic compounds emitted from trees that play a role in plant immunity) are hypothesised to have on the human body. In corroboration, former Givaudan executive and owner of Singapore-based scent brand SIX Jason Lee believes that "COVID-19 has forced us to focus on the emotional and psychological and people now realise fragrance plays an important role in our well-being ... COVID-19 is really the big driver behind the whole trend of functional fragrance now, it's the big catalyst and I expect to see it more in the developed markets".





2. *Customisation*

User-friendly, full customisation has been difficult to achieve with scent tech devices (such as diffusers) as the mechanisms have generally been clumsy and unsophisticated. Given the DIY and creative play trend we see burgeoning in all areas of social media, as well as the prediction that the aerial diffusion segment will grow with a CAGR of 11.7% until 2028, it is no surprise that players new and old want a slice of the pie.⁴ Key examples include designer Kim Mansu's recent concept for a smart diffuser speaker, containing different essential oil blends within the device that can be switched on or off from your phone as well as AROM's scent diffuser which allows for total customisation, layering essential oils via an app.

3. CBD

As clearer tiered regulation trickles out from the USA and gradually becomes incorporated globally, CBD is set to captivate a generation looking for natural, holistic solutions to aches and ailments (33% of Americans have used CBD once or more).⁵ In the CBD context, essential oils serve to underline its natural origin and provide additional benefit either through cognitive enhancement, or moisturisation, or both. A good example is Elixinol's Active Hemp Balm, enriched with lemon, rosemary, and eucalyptus oils, alongside CBDistillery's CBDefine Cream, scented with frankincense, tea tree oil, lavender, and rosemary.





4. *Pets*

In 2020, US consumers spent \$103.6 billion on their pets, with the 57 million 18-to-39-year-old pet owners accounting for 41% of all adult pet owners. Essential oils have the capacity to fill multiple roles in the pet world – first and foremost, for deodorisation, and secondly, positively influencing animals' emotional wellbeing. Standing out above the crowd, the "Pet Fresh" deodorising dog brush uses mist, powered by essential oil cartridges in the back of the brush, to condition and sanitise a dog's hair as you brush it. Also worth a mention is the "Aroma Pet Carrier" concept product released by Chi-eun Jang and PDF HAUS. The carrier is integrated with an air purification and ventilation system, aiding stress-free travel with an essential oil diffuser built within the crate.



5. *Drinks*

Whilst essential oils are the bedrock of many of the world's most famous soft drink brands, in other contexts, such as beer or coffee, flavouring exclusively with essential oils is almost unheard of. As the better-for-you trend continues to sweep the aisles within food and beverage from brands low to high, we can safely assume that the sugar content of flavouring syrups will go down, and big brands will be looking for alternatives that show their commitment to natural ingredients and positive health-impact.

In a related move, the most famous example of experimental drink-making using essential oils is the Ritz-Carlton Berlin's "Fragrances" bar which opened in 2014 – a cocktail lounge that concocts drinks directly inspired by commercially available perfumes, displaying both the fragrances and their key materials on the walls of the venue. Key drinks include 'Morning After The Thunderstorm', modelled after French niche scent brand Annick Goutal's 'Un Matin d'Orage', with tasting notes of pisco, lemon, jasmine, ginger, ylang ylang, shiso and magnolia, as well as Vaara inspired by traditional British perfumer Penhaligon's Vaara fragrance, mixing Bulleit Bourbon, saffron-infused Zacapa 23, coriander brandy, pear purée, rose water, lime, and vanilla-tonka bean-honey-magnolia syrup to achieve a similar effect as the scent.

¹<https://www.fortunebusinessinsights.com/industry-reports/essential-oils-market-101063>

²<https://www.insider.com/americans-wrongly-believe-that-essential-oils-have-health-benefits-2019-7>

³<https://www.flavorchem.com/trends/the-most-popular-mood-boosting-ingredients-trending-now/>

⁴<https://www.grandviewresearch.com/industry-analysis/aromatherapy-market>

⁵<https://www.singlecare.com/blog/news/cbd-statistics/>



We have the answer
to all things citrus!







ORANGE OIL CP

Citrus sinensis • Brazil

According to Fundecitrus, the 2021-2022 orange crop forecast update for the state of São Paulo and the western Minas Gerais citrus belt is 267.87 million boxes of 40.8 kg each. This represents an 8.9% reduction from the previous estimate in May of 294.17 million boxes. These lower figures bring the crop forecast to be about the same as the last crop, which ended at 268.63 million boxes, even though it should have been a better crop due to the alternate bearing phenomenon. But because of continuing drought conditions, which has reduced the moisture level in the soil and caused low water levels in rivers, lakes and reservoirs in what is considered the worst water crisis in 91 years, combined with successive frosts in June and July, the larger crop will not come to fruition.

These unfavourable weather conditions have caused a decrease in the quality of the oranges, since some of the fruits affected by the frosts are dry and crystallised in the inside; a significant reduction in the amount of fruits per trees; the fruits to be smaller and weigh less than the usual oranges resulting in a smaller number of boxes produced; and the highest drop rates of oranges ever seen in recent history. In view of this data and the perspective of climate conditions remaining adverse until harvests end, fruit should present the most critical size and drop rate in historical data. All varieties considered, the average size projected in May 2021, of 259 fruits to fill a 40.8 kg box, which corresponds to an average orange weight of 157.5 grams, is now updated to 283 fruits per box, equivalent to a weight of 144.2 grams per fruit, which is 14.7% lower than that of the last five crop seasons. The projected fruit drop rate increases from 20.5% to 20.9% average, all varieties considered, due to the intense water deficit, frosts and the pressure of pests and diseases, all affecting the physiological activities of orange trees.

BRAZIL: CITRUS BELT ORANGE CROP FORECAST BY VARIETY

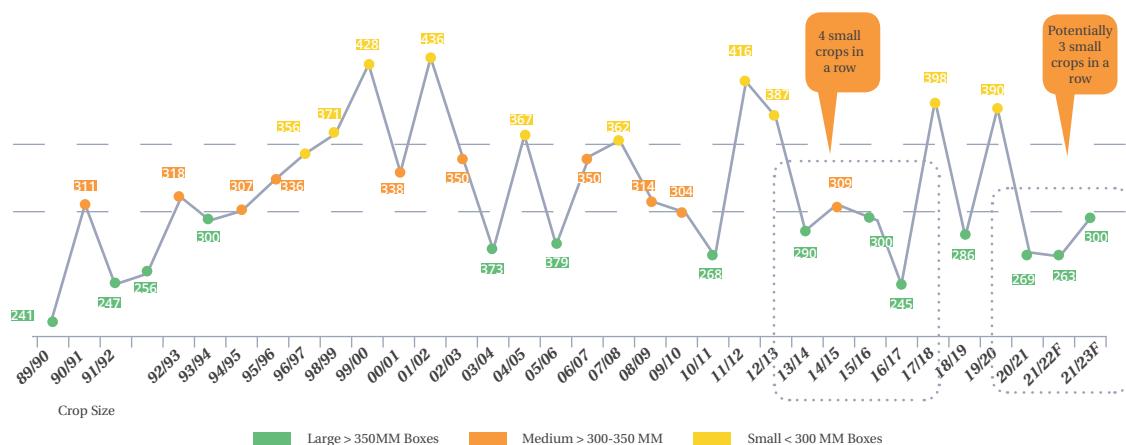
Variety group	Forecast components May 2021 / September 2021		Crop forecast 2021-2022 May 2021 / September 2021
	Fruit estimated per box (number)	Estimated drop rate (percentage)	
Hamlin, Westin and Rubi	305 / 334	12.0	51.37 / 46.83
Other early	259 / 291	12.0 / 13.5	16.87 / 14.73
Pera Rio	260 / 278	22.0 / 23.0	84.66 / 78.03
Valencia and Folha Murcha	240 / 263	24.0	107.07 / 97.53
Natal	243 / 267	23.2 / 24.0	34.2 / 30.75
Total	259 / 283	20.5 / 20.9	294.17 / 267.87

The lower crop size has triggered price increases for orange oil, terpenes and d'limonene and all other products generated during the processing of oranges. The supply is limited and lower than expected and demand is on the increase. The prediction is that price will continue to increase and a price release is not expected until March 2023. Moreover, in August 2021, the United States Environmental Protection Agency (EPA) released a final rule revoking all "tolerances" for chlorpyrifos, which establish an amount of a pesticide that is allowed in food. This is causing many quality control rejections, and thus making a difficult situation even worse. According to growers, chlorpyrifos will remain in the trees for at least 2 to 3 years.

It is too early for a 2022-2023 orange crop forecast, but considering it will be an "off" year according to the alternate bearing phenomenon cycle, and the extreme adverse weather conditions which may affect the fruit setting for the new crop, together with a late start for the next crop, as blooming has not fully started yet, a potential crop of 300 million boxes is expected.

▲ USD 12 - 15.00/kilo

BRAZIL CITRUS BELT: ORANGE PRODUCTION 1989/90 TO 2022/23 (MILLION BOXES)



LAVENDER OIL

Lavandula angustifolia  Bulgaria

Extremely cold weather conditions delayed regular lavender operations. This led to a reduced output and production. Farmers are waiting to see the price scenario to decide on the future of the fields. Earlier the low price of lavender pushed farmers to destroy fields and stop the harvest. If price continues to be low, farmers are expected to repeat the trend. This will make lavender production unsustainable. 2021 witnessed lower production compared to previous years.

The demand for lavender is extremely high, and distillers are finding it difficult to keep up with demand. The market for the oil has been extremely active in the last few months.

 EURO 63.00 /kilo

MELISSA OIL

Melissa officinalis  Bulgaria

Market for melissa oil is slow. There is no fluctuation in the demand for the product.

 EURO 1285.00 /kilo

ROSE OIL

Rosa damascena  Bulgaria

COVID-19 based restrictions and regulations across the globe are expected to determine the market situation in the coming months. Currently, lack of field workers to hand pick roses has impacted production. Unfavourable weather conditions have affected the yield too. 2021 witnessed limited production of rose oil. While the demand for the oil has improved, labour issues are bound to affect production and price. Most companies do possess stocks from previous years.

 EURO 5500.00 /kilo





BALSAM FIR OIL

Abies balsamea Canada

There are around 1 to 2 tonnes of oil available in the market which is fast depleting.

USD 188.00 /kilo

BALSAM FIR OIL, ORGANIC

Abies balsamea Canada

Reasonably adequate supplies of this oil are available in the market.

Price on Request

BLACK SPRUCE OIL, ORGANIC

Picea mariana Canada

Black spruce oil from Canada has reasonably good demand, but stocks are limited. Prices have inched up.

Price on Request

CEDAR LEAF OIL

Thuja occidentalis Canada

Cedar leaf oil stocks are limited, prices are escalating.

Price on Request

CEDAR LEAF OIL, ORGANIC

Thuja occidentalis Canada

There are very limited volumes of this oil on the market. Market estimates point towards a price rise.

Price on Request

WHITE SPRUCE OIL, ORGANIC

Picea glauca Canada

The market for this oil seems to be stable with steady stock supply.

Price on Request

EUCALYPTUS OIL

Eucalyptus globulus China

Prices are at a historic low, influenced both by demand and the pandemic. Meanwhile, the increase in freight rates and the appreciation of the RMB is putting upward pressure on the export price. Oil supply is low in part because the low oil price has led to farmers only collecting the product after orders have been confirmed.

USD 17.00 /kilo

GARLIC OIL

Allium sativum L. China

Production is being planned as per the orders received. The demand for the oil is low.

Price on Request

STAR ANISE OIL

Illicium verum China

The new crop is expected to bring the oil price down. Harvest will commence in 4-5 weeks.

The oil price has spiked. Shortage of raw material supply from last season has escalated the price. Suppliers have mostly exhausted their inventory, and the situation is not expected to improve after the next harvest.

USD 36.00 /kilo

GINGER OIL

Zingiber officinale China

There is no interruption in production and it is planned as per orders. The market for ginger oil is stable.

USD 89.00 /kilo



CITRONELLA OIL

Cymbopogon winterianus China

Competition from Indonesia has reduced demand for the oil. The crop season is nearing a conclusion and there is limited supply of the product.

Domestic crude oil prices have fallen, which has led to a reduction in production. Restrictions due to the pandemic have hit the two major crude oil producing areas in Yunnan. The oil source has witnessed a price reduction.

Currently, the oil is priced at its lowest this year. Sales volumes are small. Farmers are looking to trade stocks with cash.

USD 16.00 /kilo

GERANIUM OIL

Pelargonium graveolens China

High quality products in the market are geraniol > 5.5% and beta-guaiadiene > 6%. There is good demand for the oil. But with the crop season almost over availability has become an issue.

The oil price is expected to rise around the Chinese national day, though it should adjust with the fall in temperature and reduction in availability after the festival period. This price reduction will not be significant since the quantities are limited. Due to the low labour price planting has been minimal this year. Around 400-500 kg of the oil is available weekly. These quantities are bought by collectors, who hoard them till the price goes up.

USD 179.00 /kilo

LITSEA CUBEBA OIL

Litsea cubeba China

The oil price has seen a massive spike. Limited supply has led to this price rise. The crop season has also concluded. Seed harvest of litsea cubeba was not optimal this year. With high demand and low availability, customers are recommended to make procurement plans soon.

USD 59.00 /kilo

NATURAL WINTERGREEN OIL

Gaultheria procumbens China

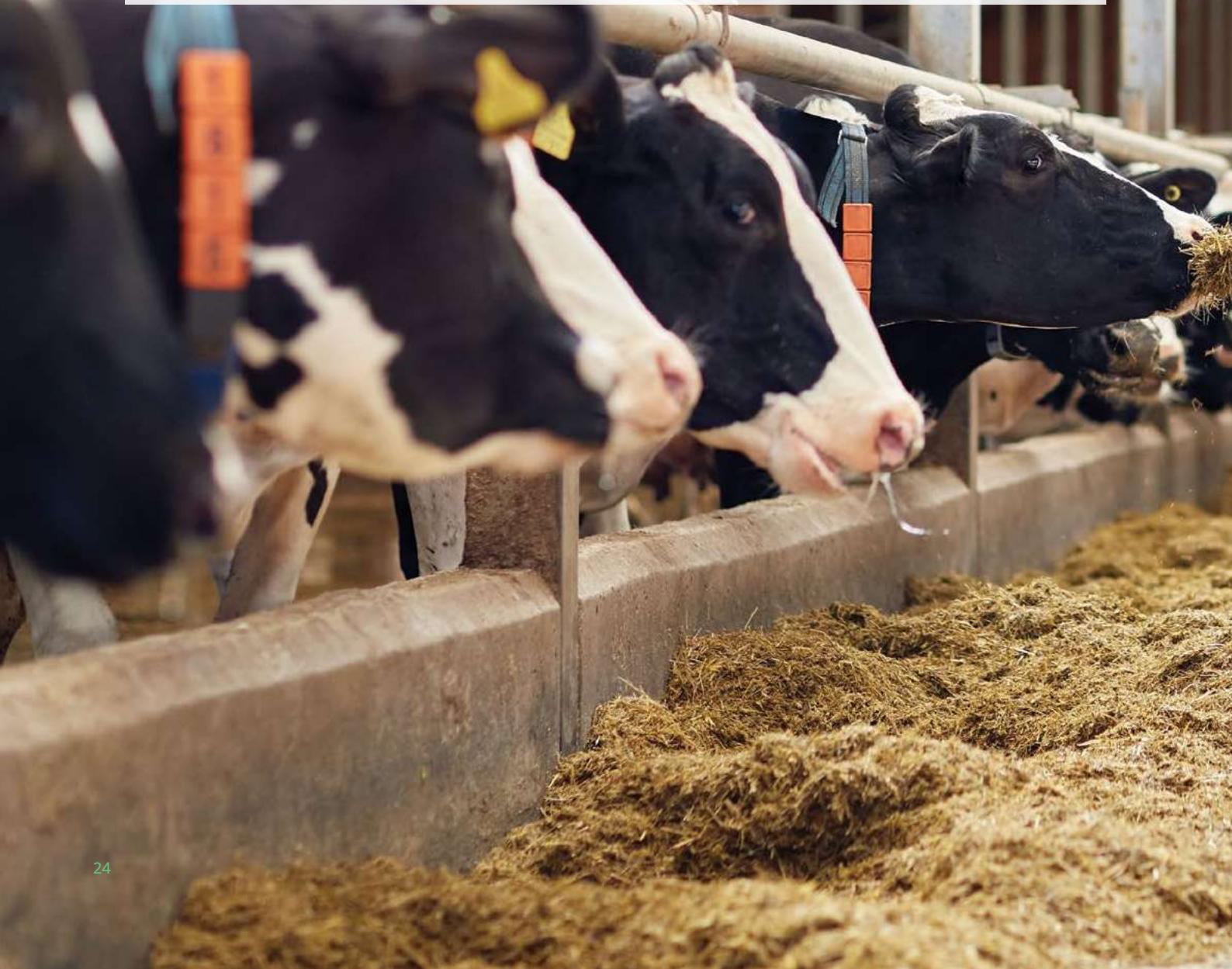
Adulteration has become a massive issue. There is almost no supply of the oil because of it. The unadulterated quantities are priced extremely high.

With farmers spending their time on flue-cured tobacco, the production of wintergreen oil has taken a hit. Demand for the oil has been affected by the high price of crude oil, though recently the oil price has been stabilising. Reduced output from the plant leaves has also brought down the distillation frequency.

Price on Request

ESSENTIAL OILS THE NEWEST PATH TOWARDS ANIMAL NUTRITION

A refreshing and aromatic infusion soothing nerves, essential oils have been the elixirs with umpteen health benefits. They've flooded market shelves for human consumption. But now they are all ready to take over the animal kingdom. There has been progressive research cataloguing the impact essential oils can have in animal husbandry. While most studies are at their nascent stage, there is enough data to substantiate the claims and warrant further research. The move towards essential oils was promoted by the need to have natural alternatives for a superior livestock gut health.







MOVING TOWARDS AN AGP FREE WORLD

Maintaining gut health of livestock is an integral task. Antibiotic growth promoters (AGP) have long been used to mask microbial imbalances caused by feeding, prevent diseases, and boost feed efficiency. But the use of AGPs is now being banned or reduced globally. This is due to the growing concern regarding the emergence of antibiotic resistant bacteria, which could pose potential health risks to humans. Commercial breeding comes with its set of challenges and, while there cannot be one solution for all, a generic approach keeping animal welfare, genetics, and diet in mind, can aid in the search for a considerate solution.

With the world at large propagating the reduction of AGPs in animals, eubiotics have emerged as a sustainable substitute. Simply explained, eubiotics are a category of feed additives that include a range of products like prebiotics, probiotics, essential oils, and organic acids. The term is derived from the Greek word 'eubiosis,' which refers to a state of optimal balance of microflora in the gastrointestinal tract. The primary function of eubiotics is to improve the health and performance of farm animals by maintaining intestinal eubiosis. Consumer preference for natural products and the desire to maintain normalcy in livestock production has worked as a catapult for eubiotics.

In particular there are several factors that have led to the emergence of essential oils in the animal nutrition market:

- They are known to have a positive impact on growth performance, gut microbiota and welfare. Essential oils tend to enrich animal feed with bioactive compounds, thus improving the quality of derived products by offering protection against oxidation and bacterial spoilage effects.
- The oils are also believed to improve flavour and palatability of feed. This prompts voluntary intake by animals and helps in weight gain.
- Several regions including the European Union have placed restrictions on the use of antibiotics. This has also aided in the emergence of essential oils as nutrition alternatives for the industry.
- Usage of essential oils is also considered a sustainable solution with the reduction in gas emissions.



WHAT DO ESSENTIAL OILS BRING TO THE TABLE?

Essential oils are natural, less toxic, and residue free. Several studies have shown essential oils can exert antimicrobial effects on some pathogens. Thymol, eugenol, and carvacrol have high antimicrobial activity against certain bacteria. They have positive effects on growth, intestinal microflora, anti-oxidation, and immune functionality. There have been studies indicating essential oil as growth promoters in poultry diets. Poultry products are prone to oxidative deterioration. Thyme oil has proven to be effective in retarding oxidant degradation in meat and eggs derived from poultry. Considerable research has also highlighted the effects of essential oils on feed nutrient intake. Several studies have found a direct correlation between improved digestibility of energy and nutrients, and essential oils. Use of thymol and cinnamaldehyde showed better tract digestibility of crude protein and energy in piglets. A cocktail of essential oils yielded even better results.

Another facet that makes essential oils valuable is their ability to regulate relaxation and contraction of the gut. This helps in digestion by improving the interaction between feed and endogenous enzymes in the gut. Essential oils such as manuka and kanuka are believed to have spasmolytic action, meaning they can relieve muscle spasms. A cocktail of other oils such as carvacrol, cinnamaldehyde and capsicum oleoresin can selectively influence gut microflora. In fact, the antimicrobial activity of essential oils also makes them popular as green preservatives to prevent food contamination. Essential oils have been shown to give a boost to the immune system as well. A study using a mix of oregano, clove and cinnamon concluded that non-specific cellular and humoral immune responses were enhanced in piglets with the inclusion of essential oils in the diet. Being natural, essential oils find easier acceptance among consumers. As a result, they've also been used to improve the quality of meat via dietary supplements.





BEYOND FEED ENHANCEMENT

Essential oils have also been used in poultry to overcome respiratory challenges. Oils such as eucalyptus, peppermint, oregano, garlic, and aniseed have demonstrated positive effects in alleviating respiration issues. During hot and dry summer periods, dust places an additional burden on the airways. Animal panting rates also increase with rising temperatures. Natural peppermint and eucalyptus can help animals overcome these challenges. Menthol is another oil that can help during heat stress situations and congestion. Reduced feed efficiency in poultry is often a result of respiratory ailments. This is where essential oils play an integral part.

THE CURRENT SCENARIO

The usage of essential oils in animal nutrition is categorised based on livestock, functionality, and geographical distribution. In terms of livestock the positive effects of essential oils differ based on the animal in question. There is a select collection of oils that works for poultry, ruminant, and swine. As far as functionality is concerned, essential oils either aid performance enhancement or work as palatability enhancers. For instance, thyme oil is considered one of the most effective due to its stimulating effect on the digestive system of animals. This improves animal productivity as well. The poultry industry is one of the largest consumers of essential oils. The importance of essential oils as palatability enhancers is one of their biggest USPs. Several studies have found feed intake increasing in animals with the aid of essential oils. The oils help nullify the bitter taste of vitamins, minerals and other feed.

Thyme and cinnamaldehyde are the biggest contributor oils in the animal nutrition market. When it comes to regions, Europe has the largest market share in the sector. Considering Spain leads the charts for animal feed production, it can be a major driver towards essential oils in this space. While Asia-Pacific and North America have a standing too, the markets in the Middle East, Africa and South Africa are largely unexplored.

THE ROAD AHEAD

The move towards elimination of antibiotics has prompted research for alternatives, and eubiotics offer an innovative approach towards managing livestock gut health. But the dice is in the hands of producers. Those who swear by antibiotics need to be educated about alternatives in the market. After being the therapeutic partners for humans, essential oils have added aroma and palatability to the animal kingdom. But only consistent use and in-depth research can bring the destination in sight. Currently, the journey for viable alternatives is on the path of exploration.

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AJOWAN OIL

Trachyspermum ammi L. India

The harvest cycle is complete and it is in tune with expectations. No fluctuations are expected in the market. Prices have witnessed a slight increase, but in the short term they should maintain their levels.

Price on Request



CARDAMOM OIL

Elettaria cardamomum L.  India

The market is looking positive due to favourable weather conditions. On the other hand, there are reports about the crop being impacted by nematode infection. Price is stable at the moment, but an upward trend is expected in the coming months.

 USD 214.00 /kilo

CITRONELLA OIL

Cymbopogon winterianus  India

The oil price has stabilised. Production has commenced and volumes will increase soon.

 Price on Request

CLOVE BUD OIL

Eugenia caryophyllata  India

Consistent oil demand is expected in the coming months. Market and price are expected to remain stable too.

 Price on Request

CORN MINT OIL

Mentha arvensis  India

Buyers are advised to keep quantities in stock. There could be a potential rise in oil price due to the sustained demand for DMO (dementholised mint oil). There is enough carryover stock to meet global demand of the product. Synthetic menthol supply is also uninterrupted. At present, the demand for Indian mint products is on track with regards to exports to China. Currently 7,300 MT of menthol have been exported by India. Extrapolating this figure, the annual demand is expected to be 22,000 MT. This is in tune with last year's volumes. This could potentially lead to a slight rise in price. Majority of mentha oil supply is in the hands of stockists and investors this year.

There is a slight upward curve in the price post the harvest season. The harvest and distillation processes are over, though incessant rains are delaying the arrival of farmers to the market.

 Price on Request

CYPRIOL OIL

Cyperus scariosus  India

Price will be stable in the short term. There has been an increase in demand for the oil, especially from Europe. The crop season has ended. Major crop belts have received good rainfall.

 Price on Request

DAVANA OIL

Artemisia Pallens  India

The price is stable. There is scarcity of raw material with adequate davanone content. There is abundant carryover stock in the market due to hoarding in the earlier period.

 USD 615.00 /kilo

FRANKINCENSE OIL

Boswellia serrata  India

The crop is good but the harvest season is yet to commence. There is decent demand for the product from the home care and aromatherapy industry. The price of the oil is stable. The wild crop is mostly found in north, south west, and central India. The pharmaceutical and fragrance industry make use of both the oil and resins.

 USD 27.00 /kilo

GINGER OIL

Zingiber officinale  India

Due to the low quality of supply, the oil price has gone up. There is a shortage of extraction grade RM in the market. In the coming months price will mostly remain stable, but continue its bullish approach.

 Price on Request

GINGER GRASS OIL

Zingiber officinale  India

In the short term the price will remain stable, but continue its bullish trend. The demand-supply dynamics are consolidating, though there has been a slight increase in oil demand.

 Price on Request

HOLY BASIL OIL

Ocimum sanctum  India

Except during the monsoon season cultivated basil is distilled throughout the year. With the end of the monsoon season in the plantation region a new crop is expected soon. The wild crop is expected in the winter season between December and March. The herbage obtained depends on various factors and so it is not possible to predict the oil quality that will be produced.

 USD 113.00 /kilo

JASMINE  India***Jasminum sambac/Jasminum grandiflorum***

For jasmine sambac the last harvest period between August and September is in progress. The crop has been good in this cycle.

For jasmine grandiflorum the crop and price are expected to remain stable. The crop season will continue till November. Absolutes are converted as per requirement. But concrete conversion happens during the crop cycle.

 USD 2350.00 /kilo
NUTMEG OIL***Myristica fragrans Houtt.***  India

The market is expected to remain stable in the short term. The price for extraction grade RM is firm, though in the coming months high price fluctuations are possible due to erratic supply dynamics. Shortage of quality raw materials and lengthy lead times continue to pose a challenge.

 Price on Request
JUNIPER BERRY OIL***Juniperus communis***  India

The biggest produce comes from Himachal Pradesh where the crop was bad poor. There were problems importing raw material from Pakistan too. The harvest is in progress and will end in November. A poor crop and non-availability of material is bound to increase the price.

 USD 85.00 /kilo
LEMONGRASS OIL***Cymbopogon citratus***  India

In the short term the price is expected to remain stable, though increasing demand is expected to result in a consistent price rise. Currently the market is stable with respect to demand and supply. Oil production has increased in growing regions in southern parts of India.

 USD 25.00 /kilo
SANDALWOOD OIL***Santalum album***  India

Suppliers with stock of sandalwood oil are dictating the price. This trend is not expected to continue as buyers are moving towards other varieties of the oil. Synthetic substitutes have become popular because of economic implications, and to avoid scrutiny by authorities. The situation can only improve when private plantations get a go-ahead to produce and sell wood, oil, and powder in the market.

Raw material availability is an issue. No fresh auction of wood has been undertaken by the three forest divisions. Sourcing authentic, sustainable, and legal sandalwood has been a constant issue for buyers. The oil price is steady and on an upward trajectory.

 Price on Request
STAR ANISE OIL***Illicium verum***  India

Star anise is heavily used in local cuisine in its native regions of southern China and northern Vietnam. Arunachal Pradesh has conducive soil and climate for the propagation of the crop. It is the only region in India that produces star anise. The crop is grown during the spring season. With supplies from China hit a few months back the price was affected. Now they have normalised. Star anise is an evergreen tree, which occasionally grows up to 26 feet. Its fruit has a fragrance similar to liquorice.

 Price on Request
TURMERIC OIL***Curcuma longa***  India

Declining demand and availability of carryover stock have settled the price at support level. Since the price is expected to remain low, the upcoming crop will be reduced in size.

 USD 25.00 /kilo




THE UNEXPLORED MIGHT OF MINT

Every toddler-parent faces it. It's something that we all have done secretly at some point. It's what we sometimes as adults do too – licking toothpaste off our brush and enjoying the sharp zesty freshness of the aftertaste.

That signature toothpaste taste of course, as we all know, is due to the presence of menthol. More than 25 species belong to the genus *Mentha* in the plant family Lamiaceae, but the commonest *mentha piperita*, a favourite flavour in the food and fragrance industry is what the world knows by the common moniker of peppermint. Its active chemical terpene is the conventional menthol or peppermint camphor.





Kitchen garden or agricultural plantation, anyone who has grown mint is well-versed with its dominant personality. Its invasive nature makes it possessive of its terrain. The herb, though a popular flavouring agent, has not been able to 'live and let live' with common herbs such as lavender, rosemary, sage, and thyme. Much to the chagrin of gardeners, it has the propensity to spread swiftly and choke out other neighbouring plants, and quite literally take over the garden. If not grown in a controlled manner or in a container, mint can defeat the best green fingers because, well, it doesn't like to be contained. It is because of this weed-like quality that the plant is perpetually in the bad books of most farmers.

However, recent research has thrown up some startling discoveries that might win mint immense favour with farmers. Weeds are the bane of all horticulturists, botanists, cultivators, and farmers who spend a considerable amount of time on weed management. They compete for the same ecological cosmos. The world over, they are the most common cause of harvest loss, especially in the cultivation of crops such as wheat, rice, maize, potato, soybean, and cotton. Unabated and unchecked, weeds can damage up to 80 per cent of the agricultural yield. Chemical herbicides are neither sustainable nor safe. Another factor to consider is that the weeds, over a period of time and prolonged usage, develop resistance. With the growing clamour of food safety and awareness of healthy consumption, the chemical pesticide sector is under stress. In consideration of this, there is a global movement to discover effective yet safe, plant-based alternative pest and weed deterrents.

Experiments by Peter Nick, Professor of Molecular Cell Biology at the KIT Botanical Institute revealed that terpenes in menthol may be the cause of biological communication triggering self-regulated cell death in plants growing close to mint. Plants develop defence mechanisms to adapt and protect themselves and release bio-chemicals through the process of allelopathy. Essential oils containing monoterpenes may sometimes accumulate in plant organs such as leaves, bark, wood, roots, flowers or even fruits. Often, large concentrations of essential oils are found in lysogenic or schizogenic oil ducts of the plant. These allelochemicals when released into the environment inhibit the growth of other plants growing nearby. In most instances, allelopathy biochemicals are volatile and are potent enough to inhibit the growth potential of other plants upon contact.

“Kitchen garden or agricultural plantation, anyone who has grown mint is well-versed with its dominant personality. Its invasive nature makes it possessive of its terrain. The herb, though a popular flavouring agent, has not been able to ‘live and let live’ with common herbs such as lavender, rosemary, sage, and thyme.”

As part of the experiment, Professor Nick and his team extracted essential oils from a variety of mints grown at the KIT Botanical Institute. In each of these oils the individual bio-active compounds were meticulously marked with the help of molecular markers. Other herbs and shrubs, planted in close proximity, were put under keen scrutiny to observe the effect of the signals. Subsequently, cell cultures of the mint were also undertaken. The results showed that the presence of menthone in mint essential oil catalysed the self-destruction or cellular suicide of microtubules in nearby shrubs.



“The KIT studies open new avenues in the unexplored might of mint as vital bio-herbicides while ensuring food safety and wellness.



Photo: Bindweed



Photo: Horse Mint

Humankind's battle with weeds is an age-old one. The most primitive method of weed control was physical uprooting of unwanted plants before the Romans ushered in the concept of chemical weed control. Now, as the world moves towards cleaner food systems, herbicides have gained prominence though there are several challenges of expense and weeds developing resistance. The KIT findings, recently published as a thesis, point towards the different mint oil allelochemicals being significantly effective control mechanisms against a variety of weeds. Common mint, it was observed, was highly effective in controlling weed marsh, a common menace in mountain pastures. In another instance, horse mint essential oil induced cellular suicide in the protein actin; therefore, an effective herbicide for field bindweed. On the other hand, reports indicated that mint allelopathic chemicals seemed to exhibit a growth-stimulating effect on crops such as apple. Another factor that contributes towards this weed-management property of mint is the fact that any herbicide must be in contact with the weed or be absorbed by the target plant in sufficient concentration. So, next time the plants surrounding your mint bed start to wither, don't be puzzled. It's the mint!

The use of herbicide is now a regular feature in agricultural planning and practice. Natural bio-herbicides score over chemical pesticides in more ways than one. Herbicides offer improved weed management and minimum crop loss, environmental as well as health benefits and above all, economy of cost. The KIT studies open new avenues in the unexplored might of mint as vital bio-herbicides while ensuring food safety and wellness.

Favoured far and wide and through the ages, *Mentha* has enjoyed a love-hate relationship with botanists and cultivators. Its medicinal and aroma-therapeutic properties are well-documented. Now, this darling of multiple indigenous cuisines around the world, the modest mint might just turn out the friend the industry needs and not the foe it is widely considered to be. Another reason to love this hard-to-hate, humble mint!



The most coveted tropical flavour,
sweet-smelling and incredibly juicy.

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BASIL OIL

Ocimum basilicum L. ☺ Egypt

The last two basil crops fetched prices which were lower than expected. Since there are adequate carryover stocks available in the market, production of the new crop is progressing but in limited quantities.

▲ USD 199.00 /kilo



CHAMOMILE OIL

Matricaria chamomilla ☺ Egypt

This year the number of chamomile cultivations was reduced compared to last year. As a result, the supply of fresh flowers from the crop in February to April was significantly curbed and prices for raw material rose considerably. Oil production, too, was largely restricted.

▲ USD 1255.00 /kilo



CUMIN OIL

Cuminum cyminum L. ☺ Egypt

There is demand for cumin oil but distillers are facing a deficit of seeds in the market, both domestic and imported varieties. Consequently, seed prices have escalated. Naturally, this has also affected oil prices which are inching up. Industry watchers predict that cumin seed prices will continue to move up till the next crop in April and May 2022.

▲ USD 122.00 /kilo

GERANIUM OIL

Pelargonium graveolens ☺ Egypt

Geranium commands a steady demand and this year is no different. Prices have settled. As has been observed over the years, the prices of geranium decline after the new crop reaches the market. However, this year prices did not plunge to their usual low levels. The new crop has hit the shelves but prices have been stable. Since demand continues to be steady, reports indicate that prices will hold their positions and will not fall further.

▲ USD 115.00 /kilo

JASMINE ABSOLUTE

Jasminum grandiflorum L. ☺ Egypt

As work resumes post COVID-19 reopening, the factories have resumed work but are operating at less than half their capacities. Initial market reports estimated a healthy jasmine crop but, contrary to predictions, fresh flower volumes have plunged to their lowest in the last two years. The crop has hardly been adequate to fulfil requirements; and flowers of a sub-standard quality are being used in production. This has exerted immense upward pressure on the prices of jasmine concrete and absolute.

▲ USD 3150.00 /kilo



NEROLI OIL

Citrus aurantium var. amara ☺ Egypt

Production is unable to keep up with the reasonably good demand of neroli oil. Consequently, neroli oil stocks are depleting while prices are rising.

▲ USD 4800.00 /kilo

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a life elixir



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INDONESIA
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Indonesia saw an abundance of rain, there was no break for a breather in terms of a dry season this year.

Pre- pandemic, the logistics timelines were up to two months for the transport of essential oils from Asia to Europe or USA. Presently, it takes almost six months on the same routes.

At the moment logistics are a challenge. Most essential oils are categorised as dangerous goods and therefore are classed as a low priority for transport by shipping lines. Moreover, the worldwide price may increase by USD 1,000-2,000 on overnight shipments. This is dependant on demand and availability.



CITRONELLA OIL

Cymbopogon winterianus Indonesia

There is a decrease in production of citronella as the price of the oil was low and farmers lost interest in production. The current demand is consistent, but the prices are escalating due to limited supply clubbed with increased logistical costs. The price for citronella oil may continue to rise further in the next few months.

USD 17.00 /kilo

CLOVE OIL

Eugenia caryophyllata Indonesia

The price of clove essential oil is stable and no major fluctuations have been reported. But, with no dry season, the price of crude clove oil is expected to keep rising till the end of 2021. A rise in crude prices is also expected to affect the price of derivatives. With the short timelines a dry season now will not help increase the production of crude clove.

CLOVE RECT USD 20.00 /kilo

EUGENOL USD 23.00 /kilo

NUTMEG OIL

Myristica fragrans Houtt. Indonesia

The demand of nutmeg is higher than the existing supply. It is almost impossible to find min 10% myristicin material and the new standard is between 8-9%.

To further add to the challenge, the logistical issues in the area are mounting, leading to restrained availability. The price of nutmeg oil is getting firm at source.

USD 65 /kilo

PATCHOULI OIL

Pogostemon cablin Indonesia

Price of patchouli oil went up substantially last year. This increase made it attractive for farmers to plant and grow patchouli again. However, this increase in production has caused an increase in supply and led to a decline in the current price.

USD 48.00 - 62.00 /kilo

VETIVER OIL

Vetiveria zizanioides Indonesia

Due to low price, the growing of the crop became unsustainable for farmers. With production coming to a standstill, the price has increased by almost 100% in the last 3 months.

Haiti is the main producer of vetiver oil worldwide, and is the preferred scent. However, the geopolitical issues in Haiti come as a hindrance. Meanwhile, the demand for the oil remains steady. Even though the Indonesian vetiver oil scent has a smoky burnt note, with demand like the current scenario, it could replace the Haiti vetiver oil in some formulas.

USD 355 /kilo



BERGAMOT OIL

Citrus bergamia Italy

The extreme heat and erratic rains have likewise impacted the bergamot crop in Italy. It is evident that the crop size will be significantly reduced, but the main challenge is the quality of fruit and not so much the quantity. Initial predictions anticipate a sharp 30% decline in the bergamot crop size, though the quality of fruit directed into the fresh and processing markets is compromised.

EURO 195.00 /kilo

LEMON OIL

Citrus limon (L.) Burm. F. Italy

The citrus market in Italy this year is rather subdued and anticipating a steep fall in the crop, almost a 40% drop from last year. In a marked deviation from the usual weather patterns, Italy and some of its main citrus growing areas like Syracuse experienced a hot and arid summer. With the mercury shooting up to an unusual 50°C, fruit production and fruit size are both affected. It is not clear whether this will impact the fruit channelised for processing since even small sized fruit can be directed into the fresh fruit market or for processing. The industry has adopted a wait-and-watch approach for better clarity. Estimates of lemon oil production continue to vary with most ranging between 600 and 700 MT.

EURO 18.00 /kilo

MANDARIN OIL

Citrus reticulata Italy

It is a similar story with mandarin as well, though the mandarin season is just poised to begin and the collection of green mandarin will begin soon. It is evident that the crop will be below expectations. Green mandarin is the driver of the market forces since the quality of red mandarin is dependent on the quantities of green mandarins collected.

EURO 79.00 /kilo

ORANGE OIL

Citrus sinensis Italy

Italy's orange farmers have a similar story to tell and are grappling with a drastically reduced crop size. Weather has not been conducive and market estimates point towards a 40% drop in crop size for the next harvest.

EURO 12 .50.00 /kilo



BLACK PEPPER OIL

Piper nigrum L.  Madagascar

The black pepper crop is considerably reduced as a result of the drought in the growing regions. This has also affected the quality; there is a variation in the composition with respect to the standards of beta-caryophyllene content. Prices for this oil plunged to their nadir in a record low in 2020 but rallied again due to demand inching up. Current prices are attractive for black pepper oil from this origin

 USD 66.00 /kilo

CLOVE BUD OIL

Eugenia caryophyllata  Madagascar

The material coming into the markets from Indonesia is posing stiff competition to Madagascar clove bud oil. There is a difference in the quality due to the eugenol and eugenyl acetate content. Prices are at an all-time low.

 USD 95.00 /kilo

CLOVE LEAF OIL

Eugenia caryophyllata  Madagascar

This oil commands a steady average price despite the lull in the market. If demand in global markets picks up prices can move up.

 USD 16.00 /kilo

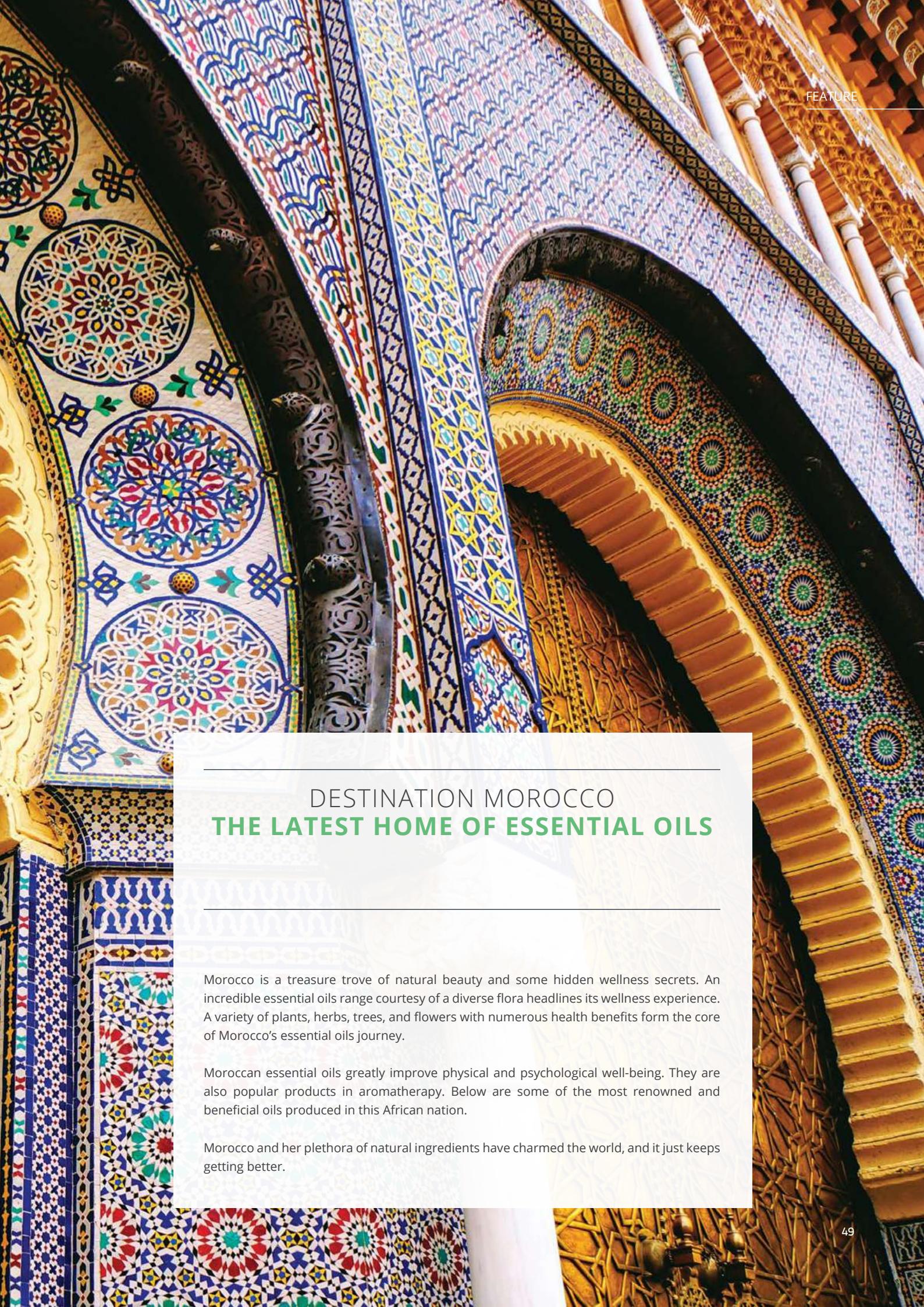
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SO YOU CAN
GO**



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DESTINATION MOROCCO THE LATEST HOME OF ESSENTIAL OILS

Morocco is a treasure trove of natural beauty and some hidden wellness secrets. An incredible essential oils range courtesy of a diverse flora headlines its wellness experience. A variety of plants, herbs, trees, and flowers with numerous health benefits form the core of Morocco's essential oils journey.

Moroccan essential oils greatly improve physical and psychological well-being. They are also popular products in aromatherapy. Below are some of the most renowned and beneficial oils produced in this African nation.

Morocco and her plethora of natural ingredients have charmed the world, and it just keeps getting better.



ROSEMARY CINEOLE OIL

Rosemary cineole, scientific name *Rosmarinus officinalis*, grows in the wild. It is mostly found in north-east Morocco near the Algerian border. The harvest season falls between June and October. Morocco annually produces around 100 tonnes of the oil. The oil is extremely beneficial in treating respiratory and bronchial problems. It is also anti-inflammatory, analgesic, and effective against certain skin conditions, joint and muscle pain. India is one of the biggest buyers of the plant leaves, which are used in making oil and antioxidants.



ROSEMARY VERBENONE OIL

Rosmarinus officinalis verbenoniferum, is a shrub cultivated in Kenitra, Morocco. It is harvested between June and July. The oil extracted from the leaves is good for detoxification, ENT, and bronchial diseases. Purifying, rosemary verbenone essential oil is widely used in skincare. To help reduce stretch marks, it makes use of restorative properties. It is also considered to be detoxifying.



MYRTUS COMMUNIS OIL

An evergreen shrub, which is excellent for hair growth, *Myrtus communis* is produced in limited quantity in Morocco. It requires authorisation from the Ministry of Forestry. The harvesting process is undertaken with the aid of co-operatives in the wild areas of Ouazdan. The shrub matures and is ripe for harvesting between September and October. This oil is traditionally recommended in cases of respiratory discomfort and to free the breath. It is also renowned for its toning and astringent properties.



SPEARMINT NANAH OIL

The plant, a variety of *Mentha spicata*, flourishes in the wild region of Guisser in Morocco. The harvest season for spearmint nanah is between July and September. Spearmint nanah has a stronger flavour than varieties of spearmint cultivated in Europe. It is popularly used in teas and as a condiment in several recipes. The essential oil is great for digestion and possesses antibacterial and anti-inflammatory qualities.



CEDARWOOD ATLAS OIL

Scientifically known as *Cedrus atlantica*, this essential oil possesses a woody scent. It is extracted from the leaves, bark, needles and berries of atlas cedar trees. Since the trees are evergreen, the oil can be extracted throughout the year. But, with atlas cedar being an endangered resource, careful consideration is required before undertaking the process. Cedarwood atlas oil is a popular ingredient in shampoos, insect repellents and colognes. It is also a great product to solve hair fall and scalp issues.



CHAMOMILE WILD OIL

Wild chamomile oil is extracted from the flowers of *Ormenis mixta* through steam distillation. It prominently grows in Kenitra, Morocco. The harvest season falls between May and June. Morocco roughly produces 800 kg of wild chamomile. The demand-supply dynamics of wild chamomile witness major fluctuations. The oil is known for its anti-inflammation properties, and has a soothing effect on the mind and body.



CHAMOMILE BLUE OIL

Chamomile blue is cultivated in North Morocco, and harvested in September. The annual national production is in the range of 600-1,000 kg. The plant is popular for its calming effect, and is used to release stress, tension, irritation, anger and anxiety. Morocco produces limited quantities of the oil, though traditionally it has witnessed high demand in the market.



ARMOISE (WHITE) OIL

Artemisia herba alba (botanical name), is extracted through steam distillation from the plant leaves. The harvest season falls between September and November. The oil has a strong, long-lasting odour. It is popularly used in aromatherapy for its calming and anxiety relieving qualities. It is also a popular ingredient in perfumes.



IRIS OIL

Iris germanica is a hybrid evergreen plant. Its roots can go as deep as 10 cms. Oil is extracted from the roots of the plant. Iris has a sweet odour, which makes it a popular product for the perfumery industry. It is also prized for its antiseptic qualities that aid in solving various skin ailments.



MIMOSA OIL

Mimosa goes by the botanical name *Acacia dealbata*. The oil is extracted via steam distillation from its flowers. It blends well with most carrier oils. Mimosa oil is popularly used in making perfumes and scents. It is also great for hydrating the skin, and thus used in cosmetics.



NEROLI OIL

Neroli oil is extracted from the flowers of *Citrus aurantium var. amara* via steam distillation. It is harvested between April and May. The country produces around 1,000 kg of the oil annually. The oil possesses rich citrus tones with a floral aroma. Its soothing effect makes it a popular ingredient in body lotions and aromatherapy. In Morocco, Marrakech and Kenitra house major neroli fields.



OREGANO OIL

Origanum compactum is an aromatic and medicinal plant flourishing in the wild areas of Morocco. It is harvested at the culmination of summer. Oregano helps in the treatment of pulmonary and gastrointestinal infections.



ROSE OIL

Rosa damascena flourishes in the M'Goun Valley in Morocco. Its main growing season is between April and mid-May. During this period, roughly 3,000-4,000 tonnes of roses are produced. Rose oil is obtained from flowers through steam distillation. The oil is known to reduce depression, anxiety and stress. It is also effective against harmful bacteria and fungi.



THYME BORNEOL OIL

Oil from *Thymus satureoides* is obtained via steam distillation from its flowers. Thyme borneol oil has a warm, earthy aroma. It is known to treat fatigue, regulate breathing and reduce heavy coughing.



VERBENA OIL

Verbena oil has a fruity scent. It is extracted from the leaves of the deciduous shrub verbena *Aloysia citrodora*. The plant can be cultivated almost throughout the year. But the oil extracted from the yield in spring is superior to those obtained during summer and autumn. Verbena oil has a refreshing aroma and is used to treat cramps, clear congestion and indigestion. It is also a popular ingredient in creating body lotions, soaps and perfumes.



MASTIC OIL

Mastic oil is extracted via steam distillation from the branches and flowers of *Pistacia lentiscus*, also known as mastic. It thrives in Mediterranean climates. The oil yield is good only when extracted from trees at least 10 years old. Mastic oil possesses anti-bacterial, anti-inflammatory, and anti-oxidant properties.



ARGAN OIL

Argan oil is extracted from the kernels of the fruit of the argan tree (*Argania spinosa*). The harvest season falls between June and August. The tree is native to the Sous valley in southwestern Morocco. An argan tree lives for about 200 years. Argan oil is popular across the globe for its medicinal, cosmetic, and culinary applications.



BLACK CUMIN SEED OIL

Black cumin seed oil is extracted from the seeds of the flowering plant *Nigella sativa*. It requires a hot summer before it can be harvested. The oil is known to have antioxidant and antifungal properties. It is also a popular ingredient in numerous health foods.



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LIME OIL

Citrus aurantifolia – Key lime  Mexico

Citrus latifolia – Persian lime

The lime season is coming to an end for both varieties of lime, Key and Persian. Lime production is expected to increase compared to the last crop due to improved weather conditions in the growing regions. However, limes for processing are expected to be less than the last crop because of the high demand for fresh fruit globally owing to the growing interest in their health benefits. This has generated an increase in exports and fresh domestic production and the supply of lime oil being not enough to keep up with demand, leading to prices for all qualities and varieties of lime oils to increase substantially.

The total production for lime in 2021 is estimated to be 2.87 million metric tonnes but only 15% of this volume will go for processing.

While the lime industry is growing significantly, making the product available throughout the year during both peak and off seasons continues to be a challenge. A global container shortage represents another factor that affects the supply this year. This situation has not changed in the past months and it is likely to continue until 2022 with freight rates up 50-70% compared to last year as well as shipment delays given the limited equipment availability.

 USD 59.00 /kilo

 USD 39.00 /kilo



FRESH MEXICAN LIMES: PRODUCTION, SUPPLY AND DISTRIBUTION
(1,000 METRIC TONNES)

	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Production	2,513	2,311	2,686	2,717	2,870
Fresh domestic consumption	1,397	1,190	1,542	1,412	1,671
For processing	388	396	397	507	350
Exports	731	729	751	801	852

MANUKA OIL

Leptospermum scoparium • New Zealand

There has been an immense amount of research on manuka oil. Its powerful antibacterial properties, several times more than that of tea tree oil, has made it a current trending ingredient in the cosmetics and personal care sectors. The oil has shown excellent results in various experiments with *shominiis*, the bacteria causing body odour and can be used extensively in body wash and deodorant products. In another landmark development, manuka essential oil is making headlines as a key ingredient in filter media used in face masks and ventilation systems to inhibit coronavirus.

Manuka production has been augmented with the addition of more plantations and enhanced capacity. This will enable distillers to fulfil the growing demand generated by these new avenues and markets.

▲ AUD 825.00 /kilo





CLARY SAGE OIL

Salvia sclarea L. Russia

Prices have come down after the harvest, since the crop was good.

EURO 96.00 /kilo

CORIANDER SEED OIL

Coriandrum sativum L. Russia

Coriander seeds are in high demand from the spice market. Efforts are being made to source adequate high-quality quantities for distillation. Currently the raw material price is on the higher side.

USD 75.00 /kilo

FIR NEEDLE OIL SIBERIAN

Abies sibirica Ledeb. Russia

Demand is high and quantity available is limited for several reasons. Russia is facing price issues on most products, including production equipment. Immediate relief is not expected.

USD 59.00 /kilo

LAVENDER OIL

Lavandula angustifolia Russia

Raw material is available because of a good crop. The market is stable.

USD 68.00 /kilo



THUJA OIL

Thuja orientalis Russia

Quantities are available in stock. Thujon-containing products are in high demand, due to shortages on Cedar Leaf oil and Thuja Oil.

USD 55.00 /kilo

PINE SYLVESTRIS OIL

Pinus sylvestris Russia

There is no change in the market scenario. It is stable in terms of demand, supply and price.

Price on Request





LEMON OIL

Citrus limon (L.) Burm. F.  Spain

Spain is Europe's largest lemon producer and the largest producer of oil, each year processing between 20%-25% of output. There are approximately 48,000 hectares of lemon with an estimated 14 million trees. Despite wide annual fluctuations, lemon production over recent decades has shown an upward trend. Over the past decade production of organic lemons has been increasing quickly and is estimated to account for 15% of current hectarage.

The AILIMPO lemon crop estimate for the 2021-2022 season forecasts production in Spain of 1,035,000 MT, which represents an overall decrease of 24% compared to the 2020/2021 season that closed with a record production of 1,370,000 MT.

The decline is due to adverse weather conditions in 2021 with episodes of cold, wind and excessive rain that affected flowering and fruit set in some production areas. The production of the Fino variety, which is predominantly used in the processing industry, is expected to decrease by 16%, while the Verna variety, which is mostly sold as fresh, is expected to be 40% less compared to the last crop.

A greater use of lemons for the fresh market is expected, with a consequent decrease in volumes for processing.

SPAIN: LEMON PRODUCTION BY VARIETY (TONNES)

	Total crop 2019-2020	Forecast 2020-2021	Difference (%) 2020-2021
FINO	980,000	820,000	-16%
VERNA	391,000	215,000	-45%
TOTAL	1,371,000	1,035,000	-24%

SPAIN: LEMON PRODUCTION UTILISATION 2020/2021 (TONNES)

	Forecast 2020/2021 (MT)
EU Exports	600,396
Non EU Exports	31,182
Domestic	184,392
Losses	45,549
Processing	414,838
Total	1,371,357

Increasingly initiatives are being undertaken in the Spanish lemon sector facilitating greater sustainability and helping combat climate change. Spain has been undertaking a range of sustainability initiatives covering environmental, social and economic aspects. In 2021 AILIMPO provided carbon footprint data for the lemon sector showing that it annually captures more than 300,000 MT of CO₂. Measurements of CO₂ emissions were taken along the value chain from growing, transportation, packaging, and processing. Lemon groves have a high capacity to capture CO₂ through carbon fixation, and AILIMPO estimated the crop captures the equivalent of 360,550 MT each year. The high CO₂ fixation figures are due to the implementation of increasingly sustainable practices by producers (e.g. low soil tillage, use of residues and localised irrigation systems leading to reduced water consumption, growth of organic cultivation, use of renewable energy and electric vehicles). Currently, the sector emits an estimated 49,300 MT of CO₂ a year – 18,122 MT in transportation, 19,705 MT at packhouse level and 11,472 MT in processing plants. This gives a net CO₂ saving of 311,250 MT a year.

 EURO 14.00 /kilo



CINNAMON BARK OIL

Cinnamomum zeylanicum Sri Lanka

Restrictions and logistical issues related to COVID-19 have had a negative impact on production volumes, but raw material is available in abundance. Even the delay in harvest has not impacted the crop. The Sri Lankan currency has also depreciated in terms of US dollars. This has eased oil prices this quarter. The price is expected to maintain its level till the end of the year.

USD 385.00 /kilo

CINNAMON LEAF OIL

Cinnamomum zeylanicum Sri Lanka

COVID-19 restrictions and uncertainties regarding fertilisers have subdued the regular drop witnessed in the second quarter. Raw materials are easily available with cinnamon peeling in progress. The oil price has also eased from the previous quarter, though it is expected to rise.

USD 30.00 /kilo

CITRONELLA OIL

Cymbopogon nardus Sri Lanka

The last 3-4 years have witnessed stable oil prices in the market. Favourable weather conditions have positively impacted the production of citronella oil. The price has fallen marginally from the first quarter.

USD 44.00 /kilo

CLOVE BUD AND STEM OIL

Eugenia caryophyllata Sri Lanka

Clove crop volumes see a significant rise in alternate years. In December 2020 there was a bumper crop, so volumes are expected to be low this year. A negligible impact of yield on price is predicted. Clove oil prices tend to decrease in November and then pick up at the end of the first quarter. The third quarter witnesses the highest price, before the harvest season when the price falls around November-December.

Price on Request

NUTMEG OIL

Myristica fragrans Sri Lanka

Competition from Indonesia has been adversely affecting the local industry. Mid-year crop will be available from the end of the second quarter to mid-third quarter. No fluctuations in oil price have been observed in the last few quarters.

USD 71.00 /kilo

LAUREL LEAF OIL

Laurus nobilis  Turkey

Laurel leaves are usually harvested during the months of September through November. Turkey has made a name for itself as a primary producer of laurel leaf oil, and the product commands considerable demand in the global markets. Initial indications point towards a good crop, and prices are expected to remain stable.

 USD 60.00 - 65.00 /kilo

OREGANO OIL

Origanum vulgare  Turkey

The season for oregano commenced last June. The crop is in season and prices are stable.

 USD 65.00 - 70.00 /kilo

ROSE OIL

Rosa damascena  Turkey

Widely used in luxury fragrances, rose oil is a perfumer's delight. However, post-COVID-19, there is a marked fall in demand for luxury fragrances and consequently demand for rose oil has dipped. The crop was good and harvesting is complete. However, due to the current situation where the market is slow for luxury goods, prices for rose oil have plummeted.

 USD 4800.00 - 5200.00 /kilo

LEMON OIL

Citrus limon (L.) Burm. F.  Turkey

In 2020/21, Turkish lemon production reached 1.1 million MT, some 13% higher than 2019/20. The area under lemon cultivation has been increasing in recent years and now stands at 41,000 hectares. While producer prices increased slightly the cost of inputs, including energy, chemicals and fertilisers increased by 60-90%. In 2019/20 lemon exports decreased by one third because of low yields and government export restrictions. In 2020/21 exports are predicted to increase by 49% to 570,000 MT reflecting both growth in demand and production. An estimated 50,000 MT of lemon production is processed. While Turkey is a major global producer of lemons and thus influences global supply and demand, its importance in the lemon oil market is substantially smaller.

Price on Request

SAGE OIL

Salvia officinalis  Turkey

August to September marks the harvesting season for sage. This year the crop is healthy and harvesting is now in full swing. Prices are stable and expected to remain so.

 USD 75.00 /kilo

ORANGE OIL

Citrus sinensis  Turkey

Extremely high temperatures at the time of the blooming of the orange trees in May have impacted the Turkish orange crop. There was a parallel 60 to 90% jump in the prices of fertiliser and other overheads such as electricity and other chemicals. Market outlook is rather subdued with exports estimated to drop about 10% to 263,000 MT. Correspondingly, orange production is also forecasted to be a whopping 23% lower than last year; at 1.3 million MT. An estimated 105,000 MT of orange will be processed in 2020/21, approximately 5% on the previous year. Pesticide levels are still a source of concern.

 USD 11.00 /kilo

TANGERINE OIL

Citrus reticulata  Turkey

Turkish tangerines performed well with favourable weather conditions and timely rainfall. The harvest was good and tangerine production is forecasted to go up by around 14% to 1.6 million MT. Exports grew by a significant 8% from the previous season; Turkey exported about 890, 595 MT in April 2021 to Russia, Ukraine, and Iraq.

Price on Request

THYME OIL

Thymus vulgaris  Turkey

The weather has played truant this year and this has impacted Turkey's thyme production. The harvest season kicked off in June, but market prices are expected to go up considering the reduced crop. Market estimates indicate that prices for thyme oil will be higher this year in comparison to last season.

 USD 78.00 /kilo



USA



In September 2021 the USDA and NASS (National Agricultural Statistics Service) released a detailed report on USA citrus fruits. A summary of some of the data on acreage, production, processing, and estimated value is shown in the table.

USA: CITRUS ACREAGE, PRODUCTION, UTILISATION AND VALUE BY CROP 2018-2019 TO 2020-2021

<i>Crop and Season</i>	<i>Production</i>		<i>Utilisation</i>		<i>Value of production*</i> <i>(1,000 dollars)</i>	
	<i>Bearing Acreage</i> <i>(acres)</i>	<i>Total</i> <i>(1,000 tonnes)</i>	<i>Fresh</i> <i>(1,000 tonnes)</i>	<i>Processed</i> <i>(1,000 tonnes)</i>		
Orange						
Early, midseason and Navel						
2018-2019	274,100	3,142	1,357	1,785	1,006,898	
2019-2020	269,000	3,115	1,474	1,641	999,404	
2020-2021	269,700	2,689	1,322	1,366	1,030,385	
Valencia						
2018-2019	235,500	2,285	347	1,939	758,449	
2019-2020	234,700	2,139	418	1,721	712,215	
2020-2021	232,000	1,737	361	1,377	562,374	
All oranges						
2018-2019	509,600	5,427	1,704	3,724	1,765,347	
2019-2020	503,700	5,254	1,892	3,362	1,711,619	
2020-2021	492,700	4,426	1,683	2,743	1,592,759	
Grapefruit						
2018-2019	49,700	604	281	322	202,712	
2019-2020	46,400	570	321	249	198,809	
2020-2021	43,400	426	274	152	220,022	
Lemons						
2018-2019	56,300	1,002	737	265	730,843	
2019-2020	57,300	1,084	752	332	664,935	
2020-2021	57,300	884	710	174	660,866	
Tangerines and mandarins						
2018-2019	72,300	1,107	758	349	700,977	
2019-2020	73,900	944	726	218	821,104	
2020-2021	74,700	1,166	788	378	836,786	

*Packinghouse-door equivalents



GRAPEFRUIT OIL

Citrus paradisi 🇺🇸 USA

In 2021-22 Florida grapefruit production is forecast at just 3.8 million boxes, down from 4.1 million boxes in 2020-21. This represents a 7% decline in the crop. Red varieties are at 3.2 million boxes, while white is at 600,000 boxes. The forecast for California grapefruit production, 3.9 million boxes, is unchanged from last season and slightly higher than the Florida grapefruit forecast. Texas grapefruit production is expected to increase, from 2.4 million boxes last season to 3.1 million boxes this season.

Similarly to what happens with orange production in Florida, not only greening contributes to the decrease in grapefruit yields but also the older tree inventory and the declining fruit per tree. Nearly 70% of red grapefruit trees are more than 14 years old, which affects negatively in the number of boxes produced per tree.

▲ USD 56.00 (White) USD 31.00 (Pink) /kilo

LEMON OIL CALIFORNIA

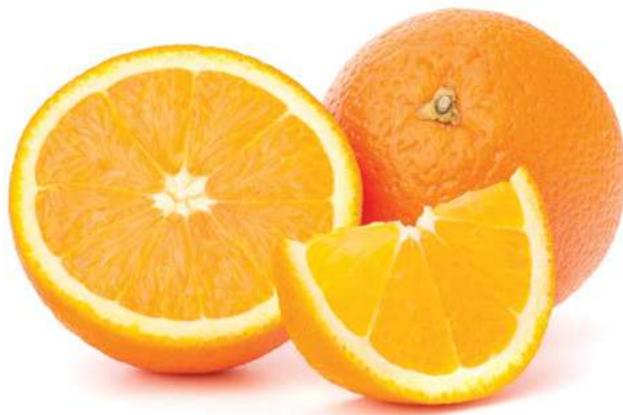
Citrus limon (L.) Burm. F. 🇺🇸 USA

California produces 80% of US lemons, giving coastal lemon oil, while Arizona accounts for the remainder, giving desert type oil. Lemon production is dominated by one large co-operative which, together with one other large processor, makes up the lemon oil producing industry. Production for the fresh fruit market dominates production, with approximately 30% of production being processed. In 2020-21 lemon production declined substantially in Arizona from 1.8 to 0.8 million boxes, and in California from 25.3 to 21.3 million boxes, making a total production figure for 2020-2021 of 22.1 million boxes. However, in 2021-22 Arizona lemon crop is forecast to increase to 1.3 million boxes, while California lemon production is forecast to be flat at 22.3 million boxes.

▲ USD 28.00 /kilo

USA: ESTIMATED LEMON PRODUCTION 2018/19 TO 2020/21 ('000 BOXES)

Crop and State	Production 2018-2019	Production 2019-2020	Production 2020-2021	October Forecast
				Production 2020-2021
California	23,700	25,300	21,300	21,000
Arizona	1,350	1,800	800	1,300
USA Total	25,050	27,100	22,100	22,300



ORANGE OIL

Citrus sinensis  USA

USA citrus utilised production for the 2020-2021 season totalled 6.90 million tonnes, down 12% from the 2019-2020 season, in part reflecting the decline in acreage. Of those, all oranges account for 4,426 million tonnes (1,683 million tonnes fresh and 2,743 million tonnes processed), down 16% from last season. The value of the 2020-2021 USA citrus crop was down 3% from last season, to US\$ 3.31 billion, while the value of orange production decreased 7% from last season, to US\$1.59 billion.

The USDA final 2020-2021 Florida orange forecast is 52.8 million boxes. Initially California's orange production was forecast above Florida's but came out at 50.1 million boxes and Texas remained at 1.05 million boxes. This adds up to a total USA orange production in 2020-21 of 103.95 million boxes.

The final Florida orange total is comprised of 22.7 million boxes of non-Valencia oranges (early, midseason and Navel varieties), unchanged from June forecast, and 30.1 million boxes of Valencia oranges, up slightly from the June forecast of 30 million boxes. California non-Valencia fell from 43.3 to 40.6 million boxes, while Valencia dipped from 10 million to 9.5 million boxes.

Orange production continues to decline in Florida because greening and fruit drop has severely impacted orange yield. Old tree inventory and declining fruit per tree are contributors to projected yield declines. Nearly 57% of round orange trees are more than 14 years old. Since 2010 older trees have seen dramatic reductions in the number of boxes produced. In recent years, trees have yielded only about 1.5 boxes per tree, down from more than 5 boxes per tree before HLB. Insufficient tree replacement rates are also contributing to fruit production shortfalls.

Fuelled by consumers who continue to seek out foods and beverages that support health, as well as by sustained use of e-commerce, in the last 4-week period ending on 11 September 2021, retail sales of total orange juice were up by 13.1% compared to 2019 values. While the average year-over-year sales of not-from-concentrate (NFC) increased by 1.1%, NFC orange juice sales are up by 20.3% compared to 2019 values.

In mid-October the USDA released its first forecast for the 2021-22 season and orange production showed another substantial decline to the lowest levels on record. The total USA orange production forecast for the 2021-22 season is 3.88 million tonnes, down by a dramatic 12% from the final 2020-21 final utilisation. As the table illustrates, all three growing states, Florida, California and Texas showing sizeable crop reductions.

 USD 14.00 - 15.00 /kilo

USA: ORANGE PRODUCTION 2018/19 TO 2021/22 (MILLIONS OF 40.8 KG BOXES)

Countries	Production 2018-2019	Production 2019-2020	Forecast May 2020-2021	Forecast Oct 2021-2022
Florida	71.85	67.40	52.80	47.00
California	52.20	54.10	50.10	43.50
Texas	2.50	1.34	1.05	0.55
Total	126.55	122.84	103.95	91.05

THE JOY OF SAVING A LIFE

An adorable small bear-like appearance, enhanced by the habit of clinging to trees and snoozing all day, koalas bring a smile to the face. They are some of the most lovable wildlife creatures, but a thrust towards urbanisation has left them homeless, and resulted in a drastic decline in their numbers. In Australia, koalas are almost labelled functionally extinct.

Having a furry coat with furry ears brown lazy eyes, and the ever-popular black nose, koalas are associated with being cuddlesome as they, typically, drape themselves across the bark, and are often found sleeping nestled on the branches of eucalyptus trees. These are not the most intelligent creatures, and like all nature's beings, only harm if they are threatened.

To conserve koalas under threat, many organisations have stepped forward for these wildlife icons, and Golden Grove Naturals (GGN) is one of them. As an organisation it believes in sustainable progress and places the onus on itself for the wellbeing of flora and fauna. In a quest to aid koala conservation efforts, GGN joined hands with a charitable organisation, *Friends of the Koala* in 2020. For over three decades *Friends of the Koala* has been working tirelessly for the welfare of the species. To secure their future and improve their quality of life, the non-profit is working towards preserving their natural habitat. It rescues and rehabilitates sick, injured, and orphaned koalas in New South Wales.

GGN has been adopting koalas and helping fund the rehabilitation

process. Since the non-profit does not receive any government funding, adoption is crucial for their survival. Through adoption, one can aid in the rescue and treatment of sick and injured koalas. This ultimately serves the bigger goal of releasing them in the wild. Another major issue affecting the koala population is the spread of diseases. Money raised through adoptions also aids in research projects that seek solutions for these diseases. The group also actively works towards habitat restoration.

In December 2020, Golden Grove Naturals adopted its first koala, the extremely lovable joey was named '*Triumph*'. *Triumph* was unique and resilient. He was born with three feet, and many doctors tried to build a prosthetic for him. But, ultimately, it was a dentist in Australia who performed this miracle. It was the first instance of a successful prosthetic foot for a koala. This greatly improved *Triumph*'s mobility, and consequently quality of life. Sadly, *Triumph* lost his battle with cancer in July this year.

While *Triumph*'s passing was heart-breaking, the experience and sheer joy of helping the almost endangered species, pushed GGN to continue this association. They adopted another koala by the name of '*Lauren*'.

This earth belongs as much to the animal kingdom as humans. Sincere efforts towards coexistence are the need of the hour. Golden Grove Naturals is committed to continue its support for the survival of this species.



A central illustration depicts two koalas in a eucalyptus tree. One koala is hanging from a branch on the left side of the frame, facing towards the center. The other koala is hanging from a branch on the right side, facing towards the center. The tree trunks are grey with vertical texture lines, and the leaves are green and grey. The background is plain white.

Lauren & Triumph

MEET OUR KOALAS!

Golden Grove Naturals joins hands
with the charitable organisation 'Friends of the Koala'.
Saving one cuddlesome, button-eyed,
big-eared, black-nosed, furry friend at a time.

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