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IFEAT WORLD

INTERNATIONAL FEDERATION OF ESSENTIAL OILS & AROMA TRADES

SUMMER 2023

SPANISH LEMON STUDY TOUR REPORT

SOCIO–ECONOMIC REPORT ON VANILLA

EUROPEAN GREEN DEAL POSES AN EXISTENTIAL THREAT TO ESSENTIAL OILS

MY FAVOURITE: BAY OIL - WEST INDIAN

SUNDAY 8 - THURSDAY 12 OCTOBER
INTERCONTINENTAL BERLIN HOTEL

IFEAT BERLIN 2023

TRADE. TRADITION. MODERN SPIRIT.

IFEATWORLD SUMMER 2023

Dear Members and friends of IFEAT,

At the time of writing more than 1,000 delegates have already registered and the trend is of course upwards. The meeting rooms and exhibition booths are all sold out - but as of today there are still a few sponsorship opportunities left. We are looking forward to the Conference in Berlin as much as you are!

I would like to take this opportunity to introduce Shaehzad Chaudhry as IFEAT's new Events Manager. He replaces Emma Ling who we wish success in her new role. The handover has worked harmoniously - Shaehzad and I will visit Berlin together soon to clarify the last open questions and especially to fine-tune the IFEAT Dinner and Closing Banquet. We laid the groundwork for this at the last Berlin Committee meeting in London in mid-May.

This is also a good opportunity to introduce my team from the Berlin Conference Committee:

Alan Brown
Geemon Korah
Catherine Crowley
John Nechupadom
Susumu Tominaga
David Tomlinson

Ravi Sanganeria from the IFEAT Panel of Experts is also supporting us.

Together with Conference Programme Manager, Tina Hotchin, we are working hard to finalise the exciting and informative programme of lectures, workshops, and courses. More information will be available soon when the speaker programme is finalised.

IFEAT 2023 Berlin is going to be a great Conference - there are many reasons to be there! All those who have not yet booked can easily register at: **https://conference.ifeat.org/** where you can also find information about the IFEAT Dinner and Closing Banquet venues.

We are looking forward to meeting you again in Berlin,

Jens-Achim Protzen
Chair of the IFEAT 2023
Berlin Conference Committee

If you would like to contribute editorial, or write a "My Favourite" article, please contact the editor, Tina Hotchin, by email at: **tina.hotchin@ifeat.org**

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WASSERWERK BERLIN
- THE 2023 IFEAT DINNER VENUE

EDUCATION SURVEY RESULTS AND PRIZE WINNER

CONGRATULATIONS TO OUR WINNING DELEGATE

We are very grateful to everyone who took part in a recent IFEAT Education survey. The responses are vital for us since the acquisition of ICATS (the International Centre for Aroma Trades Studies). Each person who responded to the questionnaire was entered into a prize draw to win a 50% discount on a delegate ticket for the Berlin Conference. We are pleased to announce that our lucky winner is Gihan Beneragama of PTC Holdings in Sri Lanka.

Gihan was delighted at the news and told IFEATWORLD, "The IFEAT conference is undoubtedly a wonderful event that brings together the IFEAT family giving all of us the opportunity to network and catch up each year.

"I personally look forward to the event as it has been a tremendous opportunity to visit and explore wonderful cities across the globe.

"In our experience, the industry of flavours and fragrances has been a very dynamic business where new research and developments pave the way for new opportunities while making certain products and ingredients redundant. Therefore, at P.T.C Agro, we consider education and constantly updating ourselves on global industry developments very important, which also led me to take the IFEAT survey.

"I eagerly look forward to the Berlin Conference and hope to see you all there."

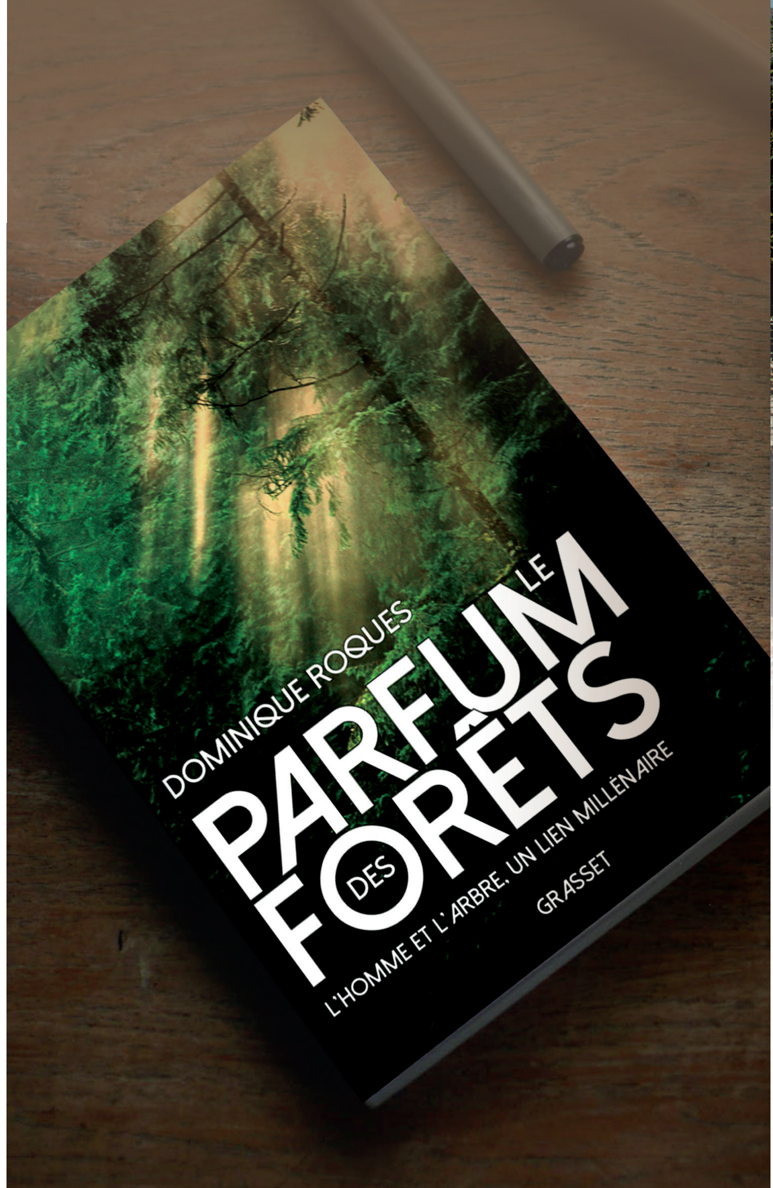
LE PARFUM DES FORÊTS

BY DOMINIQUE ROQUES

After the success of his previous book, *"Cueilleur d'essences: Aux sources des parfums du monde"*, Dominique Roques has written another book, entitled, "*Le Parfum des forêts*".

The book tells the story of the footprint of humankind in the forests of the world through history, and how perfume remains a fundamental richness in the essence of trees and forests. It's a journey through the cedars of Lebanon, the redwoods of California, the beech of Europe, the fragrant charcoal story, and finally the great ongoing story of Gaïac in Paraguay. It asks the great pending question, "has the time come where humans and trees will reconcile?"

Dominique's book (currently in French only but with an English version soon to be in production) is available in both paperback and Kindle edition from: **https://amzn.to/3I18XVC**



IFEAT FOCUS STUDY TOUR TO SPAIN 2023

BY DR PETER GREENHALGH

LEMON FROM SPAIN · ailimpo · Citricos de Murcia · CITROMIL · FRUIT TECH NATURAL · LEMON KING · RIVERBEND

INTRODUCTION

For some the number thirteen is unlucky. Initially this could have been the case with IFEAT's 13th Study Tour – this time a Focus Study Tour (FST) to Spain to study the lemon sector (FST-SL). The tour was first mooted in 2018 but had to be postponed several times because of the COVID pandemic. The oversubscribed tour eventually took place between 26th February and 1st March 2023 and was a great success. The FST-SL was a new concept from the previous 12 IFEAT Study Tours in that it was of shorter duration, lower cost, centred on one location, and aimed to appeal to younger, less senior, participants from IFEAT Member companies.

IFEAT, with Sofia Lluch as Chair of the Local Organising Committee, organised the tour with AILIMPO (Spanish Lemon and Grapefruit Interprofessional Association), based in Murcia, southern Spain. This is a dynamic trade association, bringing together all the stakeholders in the Spanish lemon sector - growers, packers, and processors to represent both nationally and internationally the complex interests of the lemon sector. During a three-day period, the FST-SL provided an overview of the Spanish lemon sector with visits to lemon orchards – both traditional and organic – as well as packing and processing operations alongside detailed briefings and discussions on the sector.

SUNDAY 26TH FEBRUARY

On Sunday 26th February some 32 IFEAT Members met up in Murcia, the centre of the main Spanish lemon growing region. Participants were from 23 different countries, with an age range of over fifty years, and holding a wide range of positions within the F&F sector, but all of whom were involved in essential oils. Nevertheless, in the short period together they bonded very well and life-long friendships and business relationships were nurtured.

On arrival AILIMPO and the sponsoring Spanish companies had provided a superb sustainable backpack containing briefing documents, programme details, company brochures, and a selection of gifts. Early arrivals took a three-hour guided walking tour of Murcia providing many insights into the rich cultural heritage of the city and the region. In the early evening there was a Welcome Reception and cocktails at which the delegates were able to acquaint themselves with each other as well as meet up with representatives of AILIMPO and the eight companies to be visited during the tour.

MONDAY 27TH FEBRUARY

An Overview of Spain's Lemon Industry

The first full day of the FST-SL began with a PowerPoint presentation by the Director of AILIMPO, Jose-Antonio Garcia, on Sustainability and Global Strategy of the Spanish Lemon Industry. This excellent and wide-ranging lecture provided an overview of the global lemon sector, and Spain's key role as a major global lemon supplier. Spain has a long tradition in lemon production, predominantly supplying fresh lemons, with processing a relatively recent phenomenon. Processing continues to play a subsidiary role, but it was stressed that its role is vital in maintaining the sector's sustainability by facilitating the utilisation of fruit that cannot be sold into the fresh market. Lemon processing guarantees the viability of the producer and means a long-term guarantee for processing.

In 2022 global lemon production was estimated at 6.50 million metric tonnes (MMT) of which 4.14 MMT was sold as fresh and 2.36 MMT was processed. Spain produced 1.22 MMT from 50,412 hectares (ha) of lemon orchards (an estimated 14.4 million lemon trees), of which 10,229 ha is organically certified. Organic production has been growing rapidly over the past decade and accounts for a fifth of Spanish production, it was felt that this is unlikely to continue and organic production and demand is unlikely to exceed a fifth of production. In part this is because of the recent global economic downturn and rising inflation which have reduced demand for organic products.

Overall lemon plantings have increased in recent years and AILIMPO estimates that total Spanish production could rise by 37% by 2026 to 1.8 MMT. The respective qualities of the two major lemon varieties, namely Fino, which produces from September to April, and Verna, which produces from May to July were discussed. Unlike other major lemon producers, Spain can harvest lemons throughout most of the year.

Spain processes between 25 - 30% of production and is the world's second largest producer of lemon oil after Argentina. Spain's oil production has shown a small decline in recent years, due in part to ongoing droughts. Spanish cold pressed lemon oil production in 2021 was estimated at 1,453 MT – some 14% of estimated global production of 10,340 MT.

WELCOME RECEPTION

The presentation highlighted the considerable efforts being made by the lemon industry to facilitate greater sustainability by reviewing the three pillars of economic, social, and environmental factors. Successful and sizeable investments are being made into organic production, reduced carbon and water footprint, as well as biodiversity - all leading to considerable improvements in the lemon sector's sustainability. One of the key takeaways from the presentation was the severe shortage of water faced by the agricultural sector in southern Spain. It was estimated that water accounts for a quarter of lemon production costs, and major investments are being made in conserving and utilising water resources as efficiently as possible. The water footprint of lemon in Spain was calculated at 271 m^3/MT which is considerably lower than water utilisation for all the other major fruits.

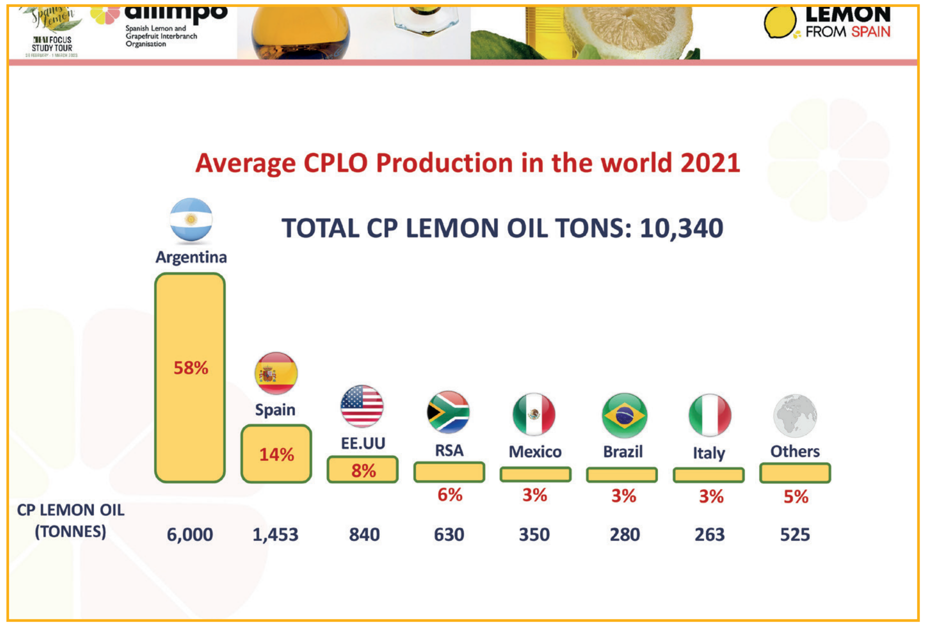
The presentation was followed by a Q&A session in which all the delegates became aware – probably for the first time - of the concept of "grey water" i.e., the volume of water required to dilute pollutants so they become harmless.

VISITS TO LEMON ORCHARDS

Then followed visits to two lemon orchards, one conventional and one organic. Everyone was surprised by the level of investment at each operation, as well as the research being undertaken to achieve higher yields and greater sustainability. Tremendous efforts are being put into conserving and optimising the use of water and energy. Every single drop of water is considered precious and considerable efforts are being made to collect it and use it as efficiently as possible. This includes water catchment reservoirs, evaporation preventions, intelligent underground sensors monitoring water needs, intelligent weather station monitors, etc.

Finca El Aguilucho grows lemons conventionally on 75 ha. There are 16,700 lemon trees of the Fino and Verna varieties, planted in 1997. Walking around the farm, the traditional production and integrated pest management methods were described in detail. Humidity probes are strategically placed at root level throughout the farm to measure the moisture content of the soil. These data are then used to regulate the amount of irrigated water provided.

AILIMPO PRESENTATION



Various certification schemes, including GlobalGAP, GRASP, and Global Nurture have been adopted to ensure high quality production. The climatic conditions on the farm were described as ideal. However, at the time of the visit, the sun was shining brightly but the unusually strong wind and resultant “wind chill” meant that delegates felt very cold – a situation that continued throughout most of the day. Certainly, the hot coffee and food break overlooking the valley below and the mountains in the distance was very much appreciated!

EL AGUILUCHO

Finca Comarza, produces organic lemons on 220 ha of organic lemon groves, growing the three varieties of *Eureka*, *Fino*, and *Verna*. The vital importance of water conservation and irrigation became apparent as a range of topics and issues were discussed. These included:

- The high investment undertaken to clear the land and develop high-tech lemon production.
- The vital importance and severe shortages of water, which can account for up to a quarter of the cost of lemon production.
- The investment in water collection and the creation of a 600,000 m^3 reservoir, which was then covered with photovoltaic panels. These not only reduced evaporation during the very hot weather experienced in southern Spain but provided energy to pump water to the top of the nearby hill. This was then gravity fed down through underground pipes.
- A sophisticated irrigation system was established with sensors throughout the farm measuring the amount of water and nutrients required for the lemon trees.
- Some 22 ha of greenhouse shading has been established for the Verna variety, which enabled the harvesting season to be extended, as well as fruit quality and yields to be increased.
- Insect hotels to assist biodiversity.
- Research work is being undertaken, including an innovative EU-funded project with plant sensors and humidity probes to analyse the lemon trees and provide the exact amount of water needed. This not only ensures excellent quality fruit but is environmentally friendly by minimising the amount of water and nutrients used.
- Alongside high investments in growing and irrigation, all the lemons are picked to ensure high quality fruit, since hand picking is done by ripeness and size. The delegates were given the opportunity to practise their (lack of) manual harvesting skills!

COMARZA ORGANIC FARM

COMARZA FARM

LEMON ORCHARDS

SHADING VERNA LEMONS

LEMON PACKING OPERATIONS

The final visit of the day was to a packing operation of The Natural Fruit Company, a third-generation family-owned company producing and packing both conventional and organic citrus products. The company cultivates more than 2,500 ha with 3,500 partner growers, and 60% of its own farms are organic. It annually processes some 130,000 MT of lemons, of which 30,000 MT are organic. It sells large quantities of fresh lemons internationally, many in small consumer packs, to European supermarkets. The operation can annually package 85,000 MT, has 2,000 MT of cold storage capacity and 1,500 MT of de-greening capacity. The operation was described in detail, stressing the sustainability aspects, which included the water-use control and re-use, the PV installation, the natural gas system, and the compressed air use. This was one of the eight NFCs packing operations and the company has a total annual packing capacity of 400,000 MT of fruit, obtained from both its own and associated farmers, has over 2,500 employees, and has been growing quickly. https://thenaturalfruit.com

EXPLAINING IRRIGATION SYSTEM AND NUTRIENT ADDITION

HAND HARVESTING LEMONS

THE NATURAL FRUIT COMPANY'S PACKING OPERATIONS

Photos courtesy of F D Copeland & Sons Ltd.

TUESDAY 28TH FEBRUARY

Tuesday was devoted to lemon processing with five major processing companies opening their operations. Most of them are family operations and each delegate was able to visit two of the companies. Each company introduced their operations followed by delegates being shown the flow of lemons through their plant from arrival through washing and sorting, processing, further refining, concentration, and packaging the oil and other products. Visits were made to the companies' laboratories, quality control and testing facilities, and some companies showed the innovative research being undertaken to produce a wide range of citrus end products.

Citricos de Murcia (Cimusa) is part of the family-owned Dallant Group, has over 40 years' experience, and now processes over 40,000 MT of citrus fruit each year, mainly lemons. It produces a range of citrus products, mainly lemon juices, orange juices, and essential oils, which are available in a wide range of packaging options from jerrycans to bulk containers. Primafiori lemons account for 80% and Verna lemons 20% of lemons processed. A video was shown of the company's range of operations and alongside its presence in Europe, Dallant has established subsidiaries in emerging markets including Morocco, Egypt, Türkiye, and Peru. www.dallant.com/cimusa/

Citromil is a family-owned company and one of Spain's leading lemon processing companies, processing approximately 50,000 MT annually and exporting 90% of its production. As with the other processing plant visits, delegates followed the fruit's flow through the plant from its arrival through washing and sorting, then processing and packaging of the oil and other products. Finally, visits were made to the company's laboratories, where quality control and testing are undertaken. Some of the equipment seen during the Citromil visit included Exzel and JBT citrus juice and oil extractors, an oil distillation unit, and an essence oil recovery system. Almost all the fruit comes from local suppliers and the company was the first to begin processing organic lemons. The company has invested in reducing its environmental impact and carbon footprint. www.citromil.net

Fruit Tech Natural (FTN) is part of the AMC Natural Drinks Group, a third-generation family-owned company with annual turnover of more than €1.7 billion that is growing rapidly. The company is the European leader and an international benchmark in innovation, research, development, and production of natural drinks supplying many of Europe's leading supermarkets. FTN is a world leader in fruit and vegetable squeezing and processing and adding value, often using its own unique patented technology. Moreover, it is a fully vertically integrated operation with the highest sustainability and ethical standards, processing more than 300,000 MT each year. Several presentations were made including one by the Director of AMC Innova, the Innovation, Science and Sustainability Division made up of more than 150 scientists and technologists covering a wide range of strategic areas, including market research, trends and consumers, fundamental scientific research into nutrition, sustainability and new technologies, and product development.

The professionalism of the company was very impressive. Following a short corporate introduction there was a tour of the state-of-the-art factory where fruit was being processed. Equally impressive were the laboratories including the innovation lab where over 50,000 samples are created each year from 600 FTN natural ingredients (e.g., juices, pulps, oils, macro-antioxidants) for a variety of industries including pharma, drinks, confectionery, and dairy. Remarkably some 400 new products annually are launched in 70 countries, many of them innovative, distinctive, and sustainable. The visit ended with a detailed presentation on the many sustainability and ethical initiatives of the AMC Group followed by a Q&A session. www.fruitechnatural.com

FNT - FRUIT TECH NATURAL

with some new natural beverage products

Miguel Parra e Hijos - the Lemon King - is a family company founded 75 years ago and a leader in lemon processing. It produces a wide range of natural and organic products including NFC (not from concentrate) juices, concentrates, pulps, essential oils, and aromas (e.g., dewaxed lemon oil, essence, d'limonene, comminutes, peel extract concentrates, and dried lemon peel). It has its own organic lemon plantation with three lemon varieties facilitating production throughout the year, as well as traceability. As with the other companies, there was a range of certifications ensuring highest quality and environmental standards were met. **www.lemonking.com**

Riverbend España, founded in 1989, processes conventional and organic citrus fruits producing a wide product range including NFC direct juices, concentrated juices, cells, essential and distilled oils, and other semi-elaborated products for the food and beverage industries. Weekly essential oil production is 6-8 MT, mainly CP oil to which has been added distilled lemon oil. **https://riverbend.es**

ENTERTAINMENT AND GASTRONOMY

While the FST–SL focused on the economic and technical aspects of the lemon industry, there was also an excellent introduction to local gastronomy – with lemon playing a key role. Catering and entertainment during the tour were at an extremely high standard, starting with the tapas and drinks at the Welcome Reception. During the farm visits we first enjoyed freshly brewed coffee with croissants and other pastries. At the second farm we enjoyed a paella show lunch created by a well-known chef Sebastián López where delegates enjoyed a range of paellas in the open air with stunning views over the valley below – the only downside being the exceptional cold wind which no-one had anticipated.

Master Chef Experience: Masters of Lemon from Spain. On Monday evening we visited the Estrella de Levante Tasting Room for an amazing evening with Arnau Paris, who had won the 9th edition of the Spanish TV Masterchef series. The delegates were split into five teams that competed in the production of a starter, main course, and dessert, often with a lemon theme. This was followed by a cocktail and buffet meal created by Rodi Fernandez, owner of the Taúlla Restaurant.

Tuesday evening saw a superb closing dinner at the Michelin starred **Alma Mater Restaurant** by chef Juan Guillamón, who created an ad-hoc menu with a lemon focus.

RIVERBEND ESPAÑA, S.A. FACILITIES

PAELLA LUNCH

MASTERS OF LEMON

The Winners

CLOSING DINNER

Alma Mater Restaurant

CONCLUSIONS

During three intensive days the FST-SL gave participants many insights into the lemon supply chain, visiting farms, packing, and processing plants. It provided participants with a detailed knowledge of the lemon business model in Spain and all the processes involved from growing lemons, harvesting, processing to obtaining lemon oil and other products - and illustrated the considerable effort, love, and passion involved. Participants also learnt about sustainability, organic production, climate change, water conservation, and production trends, past, present, and future. They had a lot of fun, made friends, networked, and established many contacts for the future.

This was another outstanding IFEAT Study Tour from an educational, networking, and entertainment perspective. Together IFEAT and AILIMPO had organised an excellent programme. Within the space of just three days, we learnt a great deal about the Spanish lemon sector, had lots of fun, and met a great group of people and companies.

In a detailed post tour questionnaire almost everyone rated each company visit as a "5" on a scale of 1 (poor) to 5 (excellent). Similar ratings were given to AILIMPO's presentation on the Spanish lemon sector and its sustainability as well as the overall organisation, evening meals, and entertainment. Every delegate's comment was very positive and included a range of superlatives including:

- *amazing experience, had fun and met a group of great people*
- *wonderful, beautiful event*
- *absolutely fantastic*
- *lots of learning and excellent organisation*
- *extraordinarily enlightening and fun*
- *memorable experience*
- *incredible first entrance into the wider world of essential oils*
- *a true eye opener*
- *how wonderful and rich Murcia and the region are in terms of industry, nature, culture, and gastronomy*
- *nothing but praise and awe for the organisers*
- *such a wonderful, well organised and fruitful FST*

The first IFEAT Focus Study Tour was a great learning experience as well as being both enjoyable and unforgettable. Two further Study Tours are planned in 2024. Visit **www.ifeat.org** for more information.

FROM THE CHAIR

BY IFEAT EC CHAIR CATHERINE CROWLEY

Greetings IFEAT Family. Am I the only one feeling that while we are halfway through 2023 it feels like it has only been a month?! I expect I am not alone – I believe this year feels especially busy for many of us. While the sense is that markets do remain soft overall for naturals, we are seeing some uptick in requirements, likely resulting from replenishing diminished inventory from the end of last year. This means additional activity, which is welcomed, along with considering new potential areas of growth for our products. At the same time, we acknowledge the areas of concern for our industry, including the current regulatory climate in Europe. All of these are matters that will require our ongoing attention this year.

Fortunately, the Executive Committee of IFEAT (EC) is working to balance all of these areas. As we know, the three main areas of our activities are: increasing trade, promoting education, and building advocacy. Behind these areas is the background activity of communication. Internal communication means keeping each of you informed about industry developments: events, regulatory updates, educational opportunities, sustainability success stories, and other important happenings. External communication is not only to other industry bodies, but going forward will include increased instances of telling the story of our industry more widely.

VISIONING WORK

As a means of looking at new opportunities for IFEAT, the EC, staff, and consultants recently met in London for two very full days to undertake a "Visioning Summit", prepared and guided by two highly skilled Consultants, Ralph Cochrane and Jane Ferguson, both from the UK. All present would likely agree that the process was intense: group work initially to creatively put forward new ideas for each area of activity of IFEAT; hybrid groups following that process to further expand the range of ideas; each of the four "home groups" meeting again to divide the ideas up into four quadrants: No Brainer, Bold, Distraction, and No Go, and finally each group having the onerous task of choosing just one (major) idea to move forward at this time. As we all know, sometimes our success is intricately linked to our saying "no" to good ideas, in order to say "yes" to the best ideas! But the work did not stop there. To make the process even more real, each group then prepared a "Shark Tank/Dragon's Den" presentation, in all instances with a strong dramatic component, and the four judges consisting of myself, Alastair Hitchen, Ralph, and Peter Greenhalgh, chose a winner each for: impact, innovation, and creativity. This wrap up was the ideal experience to give everyone a strong sense of accomplishment and excitement! At times the work felt chaotic – with a great challenge of taking many good ideas and coming up with a concrete, workable plan for expansion over the next three years. But deftly guided by our star facilitators – it worked! IFEAT Directors, staff, and consultants pulled together and made this happen. Some of the planning coming out of the Vision work includes the possibilities of focused regional events that create more trade and learning opportunities, a more expansive external PR initiative, and an overarching IFEAT Learning Centre. Stay tuned!

PRIORITISATION

NO BRAINER

Has a positive impact

Relatively quick to do

Smaller budget

Minimal resources required

BOLD

Major positive impact

Will take longer

Large budget

Requires more resources & budget

DISTRACTION

Minimal impact

Small budget / resources required

Will need to stop doing other things that are not working

NO GO

Minimal impact

Large budget / resources required

Will need to stop doing other things that are not working

Another great development is IFEAT adding two new staff members to the team! Shaehzad Chaudhry joined IFEAT as Events Manager in April, and began travel on IFEAT matters within three days of starting. Shaehzad comes into the role with large international event experience already in hand. With the pace of Conference preparations already happening very quickly, his experience is already fully in use. Becki Simpson also joined IFEAT in April in the newly created role of Administrative Assistant. With the expansion of activities, IFEAT was already behind in needing someone in this role. Becki has been warmly welcomed to the team and with a strong work background, has easily slotted into the portfolio. Shaehzad and Becki – we are very happy to have you on board!

And now .. Berlin! Preparations for all aspects of the Conference are fully underway, and with a great location in central Europe, this is already a Conference not to be missed. An exciting lineup of speakers, combined with further panel discussions on key issues, this gathering will give you opportunities to meet with and see your colleagues from all over the world, and attend dynamic sessions that will both educate and inspire you. Don't forget to sign up for the Tuesday night IFEAT Dinner! It will be held at the beautiful and unique former water recycling pumping station known as the Wasserwerk Berlin (Waterworks Berlin) in the heart of west Berlin. The building is steeped in over a hundred years of history and the dinner promises to be a warm evening with colleagues and friends, in a unique setting that will make it an evening to remember.

If you haven't done so yet, register soon at www.conference.ifeat.org so there are still places left for the events you want to attend.

We will see you there, if not before!

Warmly,

Catherine

IFEAT EC, STAFF, AND CONSULTANTS WORKING HARD AT THE VISIONING SUMMIT

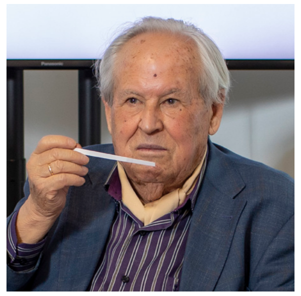
OBITUARIES

JOHN BAILEY

Former President of the British Society of Perfumers (BSP), and a regular attendee at IFEAT Conferences, John Bailey, passed away on Wednesday 22nd February 2023. He was well known in the British perfume industry and served as President of the British Society of Perfumers for two terms from 2012 to 2014, later receiving the title of Honorary Ambassador to the Society. He was a speaker at the IFEAT 2016 Dubai Conference where he gave a paper on oudh - his favourite topic - entitled: Liquid Gold – A Global Success Story.

During a very long professional career, spanning over seven decades, John began as an apprentice in the laboratories of a manufacturing chemist, druggist, and distiller; he also trained as an apothecary dispenser. He spent 10 years with Stafford Allen as a technical representative culminating in him being the executive responsible for merging the SAS perfumery department into Bush Boake Allen. The next ten years were with Naarden and Naarden UOP and from 1979 to 1981 he initiated a creative and perfume compounding operation for RC Treatt. John founded The Perfumers Guild Limited in 1981 and he carried on consulting assignments with Roure, Synarome, Argeville, Société Grassoise de Parfumerie, Arabian Oud Group, and PH Holding Group. John was Chairman of the First Middle East Fragrance Foundation Arabia FiFi Awards Jury 2010 and also the driving force behind the writing and publication of the book British Perfumery - A Fragrant History, which celebrates the 50th Anniversary of the BSP.

ANTONIO MARTINEZ LOZANO



On Friday 26th May 2023, Antonio Martinez Lozano, founding partner and manager of Esencias Martinez Lozano, passed away at the age of 89 years.

Antonio Martinez Lozano began his activity in the world of essential oils in 1960 when oils that were produced in Spain were of wild origin. His first traditional distillery was assembled in the "Paletón" farmhouse (Campo San Juan - Moratalla) and he handled 25 traditional boilers between the north west of Murcia and south of Albacete, Spain. These boilers were installed where the aromatic plant was harvested, being very different from today, with large production centres concentrated in one place.

In the early 1970s, given the difficulty of collecting aromatic plants in wild environments, Antonio was a pioneer in Spain in the cultivation of spike lavender and *Salvia lavandulifolia*. In later years, and up to the present day, he also developed cultures of red thyme, cypress, cistus, oregano, Spanish marjoram, and rosemary.

Antonio devoted himself until the last moment to his great passion: the culture of aromatic plants and essential oils.

Antonio leaves his wife Adoración, his children Paco, José Antonio, and Maria José, and grandchildren.

"He was a good man, sensitive, humble, honest, hardworking, wise, and very generous with everyone. We will miss him very much. His sons, heir to his nobility, will lead the company with the same strength that he did," said Marie-Carmen Román, commercial assistant who worked with him for 30 years.

G.A. BALAKRISHNAN

Chairman of Bhoomi Natural Products, G A Balakrishnan (Bala), passed away on 28th October 2022. He was 70.

"Bala was Bhoomi's strength and pillar of support. His drive and guidance for the growth of the Bhoomi Group will be sorely missed. Always calm and filled with positivity, the strong relationships and bonds he has developed and nurtured over the years of active work life, will stay with us forever. The Bhoomi Group (including Bhoomi Natural Products, Naturoma Agri Commodities, Ankan Chemicals and BNA Building Solutions) is confident in growing Bala's vision for the future," said K. Jayachandran, Managing Director.

Bala is survived by his wife and two daughters and his younger daughter, Lekha Balakrishnan, is succeeding Bala's interest in Bhoomi. Bhoomi's current management is led by K. Jayachandran.

IFEAT

SOCIO-ECONOMIC REPORT ON VANILLA

BY DR PETER GREENHALGH[1]

V. planifolia,
Family: Orchidaceae

INTRODUCTION

Vanilla is recognised as one of the world's favourite flavouring (and to a lesser extent, fragrance) ingredients. It is available in a variety of forms, both natural and synthetic. Natural vanilla is one of the most complex of flavouring ingredients, not only in terms of growing and processing but also in terms of its complex flavour profile with over 400 flavour compounds being detected. A key feature of natural vanilla is the sizeable market volatility arising from climatic variations as well as political and speculative activities, each of which can severely influence prices and availability.

This profile concentrates predominantly on natural vanilla although the much more dominant and cheaper is synthetic vanillin usually obtained from guaiacol/catechol derivatives and other smaller starting materials such as wood pulp and a variety of other sources. Given the trend towards natural flavours, combined with high natural vanilla prices, some companies are producing natural vanillin from sources other than vanilla beans. An expanding source of supply is from clove giving eugenol or vanillin bioconversion processes using raw materials such as ferulic acid from rice bran oil. Recent high and unpredictable vanilla prices, led to the re-formulation of products and the development of "natural" and "nature identical" vanillin substitutes.

1 The author is IFEAT Study Tour Coordinator. He would like to thank Stephen Caiger, Alain Croux, Colin Ringleib, and Dominique Roques for comments and photos. He is responsible for any errors and would welcome comments at **pgifeat@yahoo.co.uk**

VANILLA ORCHID VINE

GREEN VANILLA BEANS

VANILLA FLOWER

USES AND CONSUMPTION

Natural vanilla is available in a variety of forms. Beans are mainly used in bakery products, ice creams, desserts, and smoothies but are also vital in cosmetic and personal care products, including anti-aging creams, moisturisers, and various ointments as well as being used in aromatherapy. Whole vanilla beans are expensive and are used in gourmet and premium food products, a segment that suffered during the pandemic.

Vanilla has widespread uses in commercial and domestic baking, ice cream, beverages, confectionery, perfume manufacture, and aromatherapy. One major F&F company estimated that at least 18,000 global products contain vanilla flavour and many new flavour and fragrance combinations are being developed for vanilla.

Vanilla has also been used in some iconic perfumes.

The various forms in which natural vanilla is available include whole beans, a range of extracts, powder, oleoresin, paste, and sugar, but rarely as an oil. Vanilla beans are available in a variety of grades depending on origin. Thus, vanilla grades from Madagascar, the dominant producer, include black gourmet beans, red split and non-split, European, and American grades; each having their own market and end uses. In addition, there are organic, fair-traded, and other forms of certified vanilla.

In normal years, global consumption of natural vanilla is estimated between 2,000 – 2,500 metric tonnes (MT). Over the past few years, despite the price hikes, the demand for vanilla beans has witnessed something of a renaissance. In part, this is due to consumers' increasing preference for natural food and beverages. In 2015, a few large food brands, such as Nestlé, Kellogg's, General Mills, and Hershey vowed to use only natural flavours and remove partly the artificial ingredients from the products marketed in the USA. This coincided with the substantial downturn in natural vanilla production leading to a dramatic price hike. Food makers, flavour houses, and other vanilla users faced a variety of challenges regarding product reformulation, labelling, and defining what is "natural". Despite the record high prices, demand for some vanilla grades remained strong and enough to support the high prices during 2016 - 2022. Thus, in the USA, for many foods and particularly ice cream, when a product is labelled vanilla, only real vanilla extract can be used and WONF (with other natural flavours) has limited usage. This means it is very hard for some food categories to utilise flavour technology solutions to reduce cost fluctuations. This keeps demand high even when prices increase.

VARIETIES

Vanilla is from the orchid (Orchidaceae) family and there are over 100 identified different vanilla genera, but only a few are used in vanilla production. Vanilla is the only orchid to produce an edible fruit for human consumption, as well as being the only crop that needs to be pollinated. Vanilla is always propagated by stem cutting and the vine requires support since it is an evergreen orchid that can reach a height of several metres. The flowers must be hand pollinated and can only be pollinated for a few hours each day. Flowering only occurs for a few months during the year depending on local conditions. Moreover, farmers need to hand pollinate approximately 600 flowers to produce 1 kg of vanilla bean.

The most widely used species are *V. planifolia*, grown in Madagascar and other Indian Ocean islands as well as Indonesia, Mexico, and Uganda. There are several varieties and botanical origins. Some vanilla, particularly that from Tahiti and Papua New Guinea (PNG), is from *V. tahitiensis* which has a different flavour profile.

QUALITY

Vanilla beans differ in chemical, physical and organoleptic properties not only according to the species, but also within a species, depending on the geographical source and the physical form or grade. Consequently, preferences are expressed by consumers for particular types for certain applications. A vanilla bean is only 2% flavour and aromatic substances, the remaining 98% is water, fats, waxes, sugar, cellulose etc. The 2% is made up of 90% vanillin, 9% vanillic acid, p-hydroxybenzoic acid, p-hydroxybenzene and the remaining 1% is 400 flavour substances. While vanillin is characteristic of vanilla flavouring, the trace flavouring components highly differentiate natural vanilla.

Quality can be influenced by market price. Very high prices can lead to early harvesting of immature beans along with inadequate processing. In addition, the prevalence of significant risk of theft of green beans at farm level forces some farmers to harvest immature beans. Women and young people have been vulnerable to these kinds of threats which include farm level theft and armed robbery during transportation. The precursors of the key aroma compounds developed in the curing process only build up in the fresh bean in the last 1-2 months before maturity, so early harvesting leads to low levels of precursors, and the cured vanilla has little or no aroma, which is the critical quality parameter. Larger crops usually lead to lower prices, facilitating better production and processing and improved qualities. Ideal vanilla curing ratios would be 5 kg green to 1 kg cured but are more commonly 6 to 1 kg. The ratio rises to 7.5 or 8 kg to 1 kg for very early harvested immature beans, substantially reducing vanilla bean quantities and encouraging further price increases.

However, in recent years there has been increasing optimism regarding the better harvesting and processing practices being adopted, facilitating higher quality production. Factors cited for the improvement include improved discipline among buyers, stronger government enforcement, reduced incentives to pick early, and improved education programmes. Also, rural communities in Madagascar have been more able to control the theft of green vanilla, despite high prices, possibly in part because of the reduced demand for quick cured vanilla. It has been customary for farmers to make distinguishing prick marks on green pods to try to ensure against theft.

HARVESTING, PROCESSING METHODS, YIELDS, AND LABOUR INPUTS

Most of the world's natural vanilla is produced by smallholders from the orchid *V. planifolia*, (also known from some origins as bourbon vanilla). Although vanilla can be propagated from seed, in practice it is always done by means of stem cuttings conveniently taken during annual pruning. Once established vanilla requires constant maintenance. Vanilla vines take a long time to reach maturity, bearing fruit and flowers after 3-4 years, followed by rising yields, and then vines are abandoned after 10-12 years. From flowering to harvesting is approximately nine months. Thus, production cannot easily adjust to market requirements. The pods are harvested by hand and should be picked when they begin to ripen as the tips become yellow. Harvesting is usually once a year but in Uganda there are two harvesting periods in June/July, similar to Madagascar, and in December/January.

Vanilla orchids are very sensitive to disease and this makes it very difficult to develop large-scale plantation production. This helps to ensure large supply/demand imbalances, as small farmers cannot adjust easily to market changes. This sensitivity can lead to significant production losses and since the replacement cycle for new plantings involves several years, lower supply can exist for several years.

Processing of vanilla involves the conversion of an unflavoured green pod into a universally recognised and popular distinctive aromatic ingredient. The bourbon curing method is the dominant method used in Madagascar, Uganda and Comoros and is a complex labour-intensive process undertaken over a period of approximately three months. All the beans brought to the curing factory are sorted by colour, reflecting maturity and length in order that they can be processed, which involves six different phases:

- **Blanching (or wilting or killing)** - the sorted beans are put into hot water (c.65°C.) for 2-3 minutes to stop further vegetatative development and initiate the enzymatic process responsible for the production of the aroma and flavour.

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- **Sweating -** the hot beans are placed into large insulated boxes for 2-3 days and develop a deep brown colour and become more supple and develop an aroma.

- **Sun drying** - the sweating boxes are opened and the beans are sun-dried for one hour every day for about 10 days.

- **Shade drying** - the beans are sorted and shade dried for one month.

- **Grading and packaging** - grading is undertaken by (i) colour (black for gourmet, red for extraction), (ii) sorting into whole, split, and cuts (bulk) beans, and (iii) length - the whole and splits are subdivided according to length.

- **Maturing** - the vanilla beans are wrapped at the right temperature in wooden boxes and with the right moisture level are stored for 3-9 months to permit the full development of the desired fragrance.

The classic processing ratio is 5:1. That is, about 5 kg of fresh green vanilla beans give 1 kg of cured bean and 1 kg of cured bean will have some 250 to 300+ beans, depending on size. This number of flowers will have had to be hand pollinated, since each pollinated flower yields one green bean. However, the ratio of fresh to cured will rise if harvested immature – up to 8:1. Most of the processing is done locally and methods differ somewhat between origins.

Yields can vary considerably. A good vanilla operation can yield between 500 - 800 kg of cured beans per hectare (ha) per year during a plant life of seven years. However, if not processed correctly then both yields and quality can be lower. Curing is critical alongside ensuring the green beans are fully matured when harvested. When prices increase stealing beans increases, leading to early picking and lower quality.

Considerable efforts have been made to modernise and standardise both growing and processing but, as yet, modern agro technologies have either not been developed or have been unsuccessful. For example, in Madagascar some large collectors have vacuum-packed partially cured beans to maintain moisture in anticipation of higher prices later in the year, but this practice can lower both quality and yields. Similarly, techniques for quick curing of green beans, as well as green bean extraction and fractionation, have been developed but the jury is still out on the benefits of these initiatives. In the 1970s the American spice company McCormick developed an alternative method which it tested in Uganda involving using cut beans instead of whole beans. These are killed, sweated, and dried in a forced-air drier. The whole process took about a week. This is followed by conditioning for a further three months. The final product is only suitable for sale to extractors.

Labour Inputs

Vanilla is labour intensive and requires specific skills. Vanilla cultivation (i.e., pollinating, weeding, pruning, and harvesting, but excluding land clearance and planting) is estimated to need 400 days per year per ha. Similarly, the nature of the curing process combined with the need for continual manual inputs is labour intensive. A unit capable of handling 5 MT of green beans per week needs to employ approximately 20-30 people, although not all full-time.

MAJOR PRODUCERS

Natural vanilla originated in Mexico, where it was naturally pollinated by bees, and was used by the Aztecs. During the past two centuries, production spread worldwide once it was discovered that hand pollination of the flower was required outside Mexico. The difficulty of growing and curing the green orchid to produce vanilla beans, involving substantial labour inputs, means that production is concentrated in tropical countries with low labour costs. The high price of vanilla has proved to be initially attractive to many small farmers in the tropics but the complex nature of growing, harvesting, and processing invariably leads to many more failures than successes.

Precise production data on vanilla are not available for several reasons, including the protracted processing involved after harvesting, variable levels of stock held in producing countries, and the secretive nature of the sector. Export data are often used as an approximate guide to production levels.

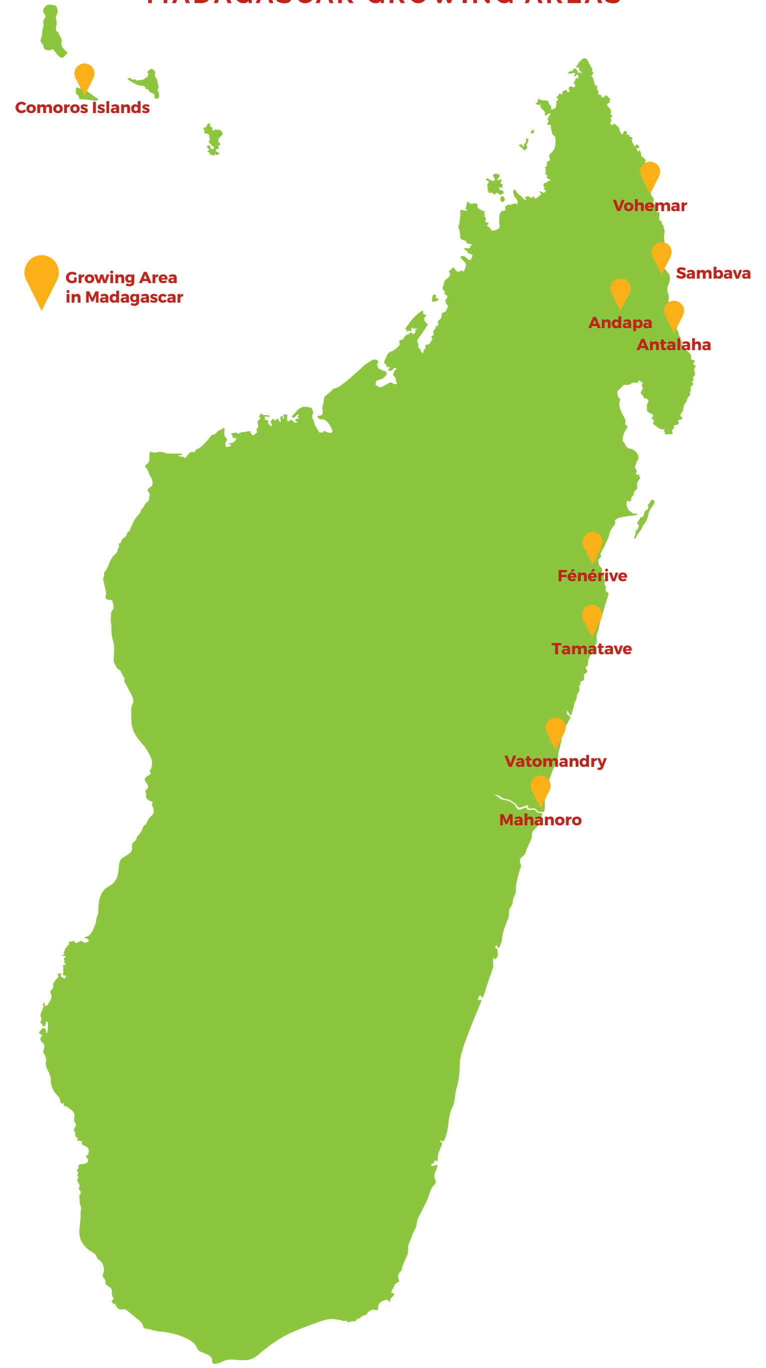
Madagascar accounts for 60% to 80% of global production depending on its annual production with Papua New Guinea, Indonesia, Uganda, and Comoros being other sizable suppliers. In addition, there are some other smaller producers including India, Israel, Mexico, Réunion, Sri Lanka, Tahiti, and Tonga. There has been talk recently of India and Sri Lanka becoming larger producers but, as yet this has not materialised. In recent years increased investments are being made to produce vanilla using biotechnology. Due to the plant sensitivities, developing significant new production can be very challenging.

Madagascar

Vanilla production is dominated by Madagascar, with production concentrated in the north-eastern Sava region, around the trading centres of Antalaha, Andapa, Sambava, and Vohemar, where vanilla monoculture is practised on an estimated 24,000 ha of land. This is where the best growing conditions exist and are combined with the availability of low-cost labour. Moving southwards, vanilla production decreases through the prefecture of Fénérive and Tamatave and is least around the southerly towns Vatomandry and Mahanoro. In total, a further 4,000 - 5,000 ha of vanilla are under cultivation. Vanilla flowers are pollinated between May and August with most being harvested in July and August the following year and available for export from November until April.

Madagascar's dominance of world vanilla supply means that prices are dominated by the pronounced crop cycles in Madagascar. Output from other countries is insufficient to counteract these cycles. In 1991, Madagascar and Comoros abandoned vanilla bean export quotas and the associated buffer stock system that had helped stabilise vanilla prices around USD $75/kg since the 1960s. Thereafter, stocks were liquidated and prices fell. The 2002/3 "perfect storm" of a poor crop combined with a cyclone led to prices rocketing to $450/kg, encouraging production expansion and substitution. So, from 2004 to 2014 there was a period of excess supply and prices ranged from a low of $30 to a high of $80. From 2014 onwards, a combination of reduced production, falling stocks, increased demand, large crop pre-financing along with speculative activity, saw prices soar to $225 in mid 2015 with further rises the following year. Further upward price pressure continued following Cyclone Enawo

MADAGASCAR GROWING AREAS



on 7th March 2017, the worst cyclone for 13 years. Prices escalated to $600/kg, following initial concerns of sizeable crop losses. Certainly, a lot of Madagascar's premature green beans fell off the vines. However, prices stabilised or fell later in the year, as estimates of cyclone damage fell to an estimated 25–30% of the anticipated crop. Also new plantings coming onto the market were helping to stabilise prices. However, production shortfalls after 2015 led to the liquidation of most carryover and many speculative stocks leading to further price rises and volatility. Another problem is the opaque nature of the vanilla market, with export trading being concentrated in a few powerful hands and a lack of market transparency.

Madagascar's vanilla crop in 2021 turned out to be a bumper crop. Initially thought to be between 2,000 and 2,300 MT, an estimate based on trade data from the two major exporting ports of Sambava and Antalaha, combined with additional exports from the ports of Tamatave and Diego Suarez, as well as air-freighted vanilla plus carryover stocks, suggested it may be closer to 3,000 MT.

Crop estimates are often conflicting in part because of erratic weather conditions. There is no doubt that global warming is increasingly impacting the vanilla growing areas of Madagascar. The region's susceptibility to climatic variations, including cyclones, hot and dry conditions, and heavy rainfall can lead output to fluctuate considerably. Moreover, cyclones can also impact quality with fallen immature green beans often being cured immediately. For example, in 2022 there were conflicting estimates in part based on trying to assess the impact of erratic weather conditions. The closing months of 2021 saw weak flowering leading to predictions of a smaller crop and upward price pressure. Flowering peaked in October 2021 and the final two months of 2021 saw reduced rainfall, which arrived too late to avoid a significant flower drop. Some sources suggest a production shortfall of "several hundred tonnes" but even so the 2022/23 crop was still substantial and estimated at more than 2,000 MT, possibly because of late flowering, alongside abundant rain, and improved yields.

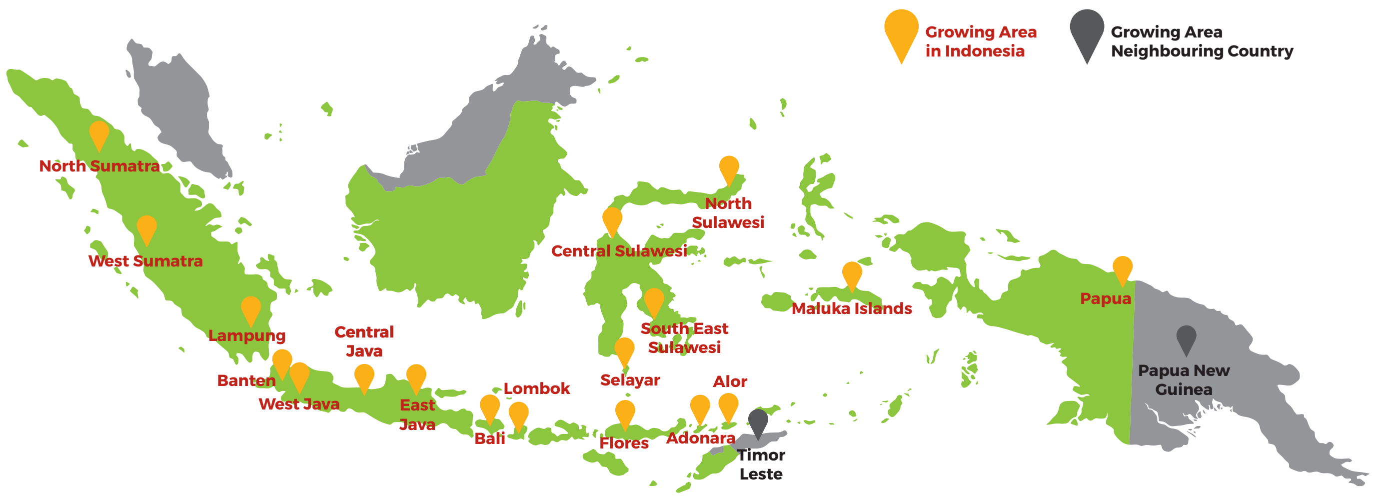
Vanilla is so important to Madagascar's economy in terms of employment and export earnings that the government is closely involved in the sector. There are a series of rules and regulations such as opening harvest dates, closing export dates, export pricing, and repatriation of earnings. This involvement, combined with the level of enforcement, adds to the lack of transparency and opaqueness of the market. Vanilla production and trading in Madagascar is a complex operation.

Indonesia

Until recently, Indonesia was considered the second largest vanilla bean producer, with Bali and South Java the primary production areas. Recently production has spread to Sulawesi, Sumatra, Lombok, and Flores. However, some PNG vanilla is being offered as Indonesian vanilla, despite these origins having their own distinct characteristics. Indonesian production methods focus on quantity over quality with short cuts being used in harvesting, curing, and drying. Indonesian vanilla has a sharper, woodier flavour than other varieties and usually sells at a lower price.

Indonesian vanilla has different flavour and fragrance characteristics than

INDONESIA GROWING AREAS – AND NEIGHBOURING COUNTRIES 2021 (FROM INDESSO)



Madagascan vanilla, and its industrial grade is the preferred vanilla for blending with neighbouring PNG extraction grade. The continued import of PNG vanilla makes it difficult to estimate production but the high prices of recent years led to efforts to expand production and some sources suggested Indonesian output in 2022 could be as high as 300 MT compared with estimated output in 2017 of between 80 – 150 MT.

Unlike Madagascar, Indonesia's vanilla market is a free market with minimal government interference. As with other vanilla growing countries, the Indonesian industry faces several challenges, including natural disasters, such as cyclones, landslides, higher freight costs and reduced shipping availability due to the COVID-19 pandemic, and some early harvesting because of higher prices.

Papua New Guinea (PNG)

PNG produces both *V. tahitensis* and *V. planifolia* vanilla beans in a diverse range of qualities. Overall, average quality has improved in recent years, but sizeable amounts of substandard *V. planifolia* are on the market. There are still no real quality standards and moisture and vanillin contents can be very inconsistent. On the ground little microbiological analysis and pesticide testing is undertaken. The *V. tahitensis* vanilla dominates the retail and institutional sector markets. As food safety standards become more rigorous this lack of testing and quality standards will create greater challenges for PNG vanilla in the food formulation markets in the years ahead.

PNG is an important supplier of gourmet vanilla beans into the food service and tourist sectors but the COVID-19-induced collapse of these markets led to these bean types being further dried to produce industrial vanilla. PNG industrial vanilla is now readily accepted by major industrial users in North America, Europe, and Australia, while some of its higher quality black/gourmet vanilla is imported into neighbouring Indonesia for mixing with local production.

In recent years vanilla production in PNG and particularly the Sepik regions has been expanding, encouraged by high global prices. Between 50% to 75% of PNG vanilla production originates in the regions of East Sepik and Sandaun (formerly West Sepik), bordering the Indonesian province of Papua. Most of PNG's vanilla trade is done through informal channels through Indonesia, which is an important market. Indonesian dealers finance some PNG growers and collectors, and the product is smuggled to Indonesia, which does not help PNG exporters. In 2020 the border with Indonesia was closed, reducing the amount of trade. Some vanilla is smuggled but there is a procedure for exporting legally and some vanilla imports are recorded in Indonesian trade statistics.

Transport logistics in PNG are notoriously difficult and the recent pandemic further aggravated these problems. Air freight rates rose three-fold and the transport system remains highly fragmented. Compared with many products, the high unit value of vanilla combined with its non-perishability, relatively easy transportability and PNG's suitable agro-ecological growing conditions have facilitated an expansion of production. While production and trade data are difficult to obtain, production in 2021 was estimated at 300 MT and a similar amount was predicted for 2022.

Uganda

Uganda began vanilla production in the 1930s but exports were insignificant until the 1970s when an artificial curing plant was established but this closed after a short period. In the early 1990s a local entrepreneur, Uvan Co. started a plantation and installed a rapid, artificial curing plant which was quickly followed by the rapid growth of smallholder cultivation and the introduction of traditional bourbon curing techniques. Uganda became an important producer, with output in some years having exceeded 150 MT, with production in western, central, and eastern Uganda.

In recent years, there have been quality issues, in part related to early harvesting and poor processing. Efforts are being made to improve quality, quantity, and yields, with government support. It was estimated that production in 2021 reached 150 MT, considerably higher than originally predicted. Growing conditions in 2022 were good so production could have exceeded 200 MT but it is not clear if some production in neighbouring Tanzania is being traded through Uganda. In addition, there is some concern about maintaining quality standards, particularly with regard to moisture content, and this means that Uganda vanilla will sell at a discount to Madagascar.

Tanzania

While Uganda has been the dominant vanilla producer in East Africa for several decades, over the border in Tanzania vanilla production has been growing quickly in recent years. According to Tanzania's Ministry of Agriculture, vanilla production increased significantly in the last five years, "rising from 229.8 tonnes per year in 2015 to 1,949 tonnes in 2020". However, these data relate to green beans rather than the usual cured vanilla. Some 5-7 kg of green beans are required to produce 1 kg of cured dried beans, through a skilled four step process of killing, sweating, drying, and conditioning. With the relatively high prices in recent years, Tanzanian farmers have been reported to be switching from coffee and other cash crops to vanilla. The growing importance of Tanzania is reflected in the holding of an international vanilla conference in Tanzania in late 2019, just prior to the onset of the pandemic.

Comoros

The Comoros Islands in the Indian Ocean, just north of Madagascar, produce high quality bourbon vanilla. High vanilla prices since 2015 led to efforts to increase production, by both existing and new companies. Production in 2017 was estimated between 30-40 MT but an aggressive government-supported growing campaign was predicted to lead to a substantial expansion in production, but as yet this appears not to have materialised, but output in 2022 could have exceeded 50 MT. This is probably the result of a combination of high production costs, lower vanilla prices, the pandemic, and the severe logistical and shipping constraints faced by the country.

Tahiti

Tahiti in French Polynesia has been cultivating vanilla since the mid 19th century from the true *V. tahitensis* variety. It was a sizeable producer in the early 20th century with production peaking in the 1930s at an estimated 200 MT (possibly green vanilla). Current production is estimated at around 10 MT.

Tonga

Tonga is another small South Pacific producer and exporter of vanilla beans, from *V. planifolia*, Vanilla has been organically farmed in Vava'u since the 1950s. In the late 1980s annual exports exceeded 30 MT but low prices led to dormant production until about a decade ago. Since then efforts within the Vava'u region have led to the once dormant plantations being brought back into production. A recent estimate said more than 300 farmers and 1,400 people now work in the vanilla industry, while another source suggested production of 144 MT but this is almost certainly green vanilla beans.

Réunion

Réunion is a French overseas department, where in 1841 a 12-year-old slave discovered the hand pollination process, leading to the rise of bourbon vanilla growing. In the 1930s Réunion became the leading global producer but competition, particularly from neighbouring Madagascar, led to a drastic reduction. Even in the late 1980s Réunion exports were annually averaging around 25 MT but production declined further. Currently Réunion offers small quantities of a high-end product with PGI (Protected Geographical Indication) status, which brings together 140 small producers, based mainly on the east coast.

Mexico

Until the early 19th century, Mexico was the sole producer of vanilla. Current annual production from *V. planifolia* is estimated at around 5-10 MT.

India

In India, vanilla is grown in the southern states of Kerala, Karnataka, and Tamil Nadu and has been expanding since *V. planifolia* was first planted in the early 1990s. More recently planting has taken place in Assam in Northeast India.

REUNION
Vanilla plants under a meshed canopy to moderate the sunlight

REUNION
Sweat box which is used to hold vanilla beans after heating

REUNION
Drying rack where the cured beans are held to complete drying

The Spice Board states the area under cultivation is currently around 1,000 ha, not all of which is currently yielding. Present annual production of processed vanilla is estimated to be around 6-8 MT although some put the figure considerably higher.

Sri Lanka

Vanilla is a comparatively new crop in Sri Lanka produced from *V. planifolia*. Around 2,000 farmers in Kandy, Matale, Nuwara Eliya, Kegalle, Ratnapura, Badulla, and Galle are engaged in cultivation in the mid and low country wet zone. Production is on less than 100 ha and annual output in 2021 was put at 26 MT, which is almost certainly green beans. This is consumed domestically as well as exported in a variety of forms. In addition, Sri Lankan vanilla exporters have introduced products like vanilla-infused virgin coconut oil, vanilla tea, bee honey with natural vanilla, and vanilla vinegar to the global market.

GRADING, PACKAGING, QUALITY STANDARDS, LEGISLATION AND REGULATIONS

Export Grading and Packaging

The large producing countries have systems of grading and quality certification aimed at ensuring that exports meet recognised standards. Beans are graded according to length, appearance, and moisture content and a minimum vanillin content may also be specified. Madagascar has four main export grades and Indonesia three. After grading, whole beans are tied in bundles containing hundreds of beans wrapped in waxed paper. These are packed in tins, also lined with waxed paper, holding up to 10 kg of beans with relevant information on the tins. For shipment, batches of tins are placed in cardboard or wooden cases and depending upon the grade and contractual arrangements, may be air or sea-freighted with most lower grades being sea-freighted.

Quality Standards, Legislation, and Regulations

The International Organization for Standardization (ISO) has a standard which describes the general characteristics of vanilla beans and classifies them by appearance and moisture content: ISO 3493-2014. However, many importers or end-users have their own in-house specifications and beans are selected and blended based on size, appearance, colour, gross flavour character, and vanillin content. The minimum vanillin content demanded often depends on the use to which the beans are put.

Due to its many possible uses, vanilla is impacted by a range of legislation and regulations covering its use in foods, fragrances, cosmetics, and chemical substances. A key challenge is adapting to the differing regulatory requirements between markets. The USA and EU are major markets and detailed descriptions of their respective regulatory requirements are contained in Hallegan et al (2018) and CBI (2018).

One contentious issue in the food industry remains the usage and labelling of naturally flavoured vanilla products. Currently there are several class action lawsuits against companies misrepresenting their applications of natural vanilla.

Another current cause of concern for vanilla and other ingredients is the EU's recent legislation (EU 2023/277) which from September 2023 substantially reduces the permitted levels of MRLs (Minimum Residue Levels) including nicotine in a product. This is a complex subject which does not yet have a clear resolution. As the situation becomes clearer the impact will be summarised in a future edition of IFEATWORLD.

SOCIAL AND ECONOMIC CHARACTERISTICS

The major economic and social contributions of natural vanilla are in relation to the employment created and revenues generated from exports, since almost none is consumed in the country of production. Revenues generated are greatly influenced by vanilla prices which can be quite volatile. Price levels are very dependent on the size of the Madagascan crop – and to a much lesser extent the Indonesian, PNG, and Ugandan crops – all of which are very weather dependent. Other factors influencing price include carryover levels, currency fluctuations, speculation, and particularly the value of the US dollar, as well as economic and political stability in producing countries. Sadly, only limited data are available on the economic and social impact of vanilla in producing countries.

MADAGASCAR
After initial scalding beans are wrapped in blankets to form parcels and laid in the sun to heat up

SOCIO-ECONOMIC REPORT ON VANILLA

As discussed earlier, vanilla production and processing is a very labour-intensive process and women and young people play an important role. This is particularly true for pollination which requires steady hands, good eyesight and is tedious to perform. The vine flowers for only a few hours in the morning and highly expert handling and training is required to ensure pollination is done successfully. Vanilla's high unit value and non-perishability, when properly cured, makes it particularly attractive for rural and remote locations. In addition, vanilla fits well into sustainable agricultural systems in relation to time competition with food crops. Whilst vanilla can provide a significant cash return, most smallholder producers also have food gardens for household consumption and sales in local markets.

Madagascar

Vanilla is so important to Madagascar's economy in terms of employment and export earnings that the government is closely involved in the sector, which employs an estimated 70,000 farmers in the northeast Sava region alone. Another source suggests an estimated 100,000 vanilla farmers plus all the beneficiary members and seasonal workers. This "green gold" is vital to the region and the country. Besides the smallholder growers, producing on farms of approximately 0.5 ha, there are an estimated 6,000 small village collectors who are financed by merchants and larger buyers who supply the processors and exporters. In addition, there are service providers in relation to provision of transport, agricultural inputs, and financing services.

The government implemented a *"decret"* which fixes a minimum price for green beans, of 75,000 ariary per kg (approximately US$ 18.5/kg) for the previous seasons. The objective is to support growers' incomes but there is much doubt as to whether this price is being observed and enforced. Growers have the option of curing their own beans and going for the *"vrac"* price if they don't find buyers for their green beans. In 2020 the government imposed a minimum export price of US $250/kg and this minimum export price measure has recently been removed allowing "liberalisation" of the export price. This price applied to cured beans but not to vanilla extracts produced by local manufacturers who are able to buy vanilla beans directly from collectors or vanilla associations at substantially less than the official export price. While export prices are below this official level various ingenious schemes appear to be operating enabling exporters not to breach this policy. Also, there is an issue relating to which companies will be granted export licences.

Indonesia

Estimates of labour employed in Indonesian vanilla production are difficult to obtain in part because producers and exporters are also involved with other crops. One source estimated at least 10,000 small farmers are directly involved in production but the figure could be considerably higher based on labour estimates in neighbouring PNG.

Papua New Guinea (PNG)

PNG production is undertaken by subsistence farmers on small household plots of 0.1 ha. to 0.5 ha. Women and the young play an important role, particularly in the labour-intensive activities of pollination and processing. However, knowledge is limited regarding growing techniques and the drying and curing of green beans and quality aspects. An estimated 50%-75% of PNG vanilla originates from East Sepik and Sandaun (formerly West Sepik) regions and some 90% of the 90,000 households in the area are dependent on vanilla as an income source. It is an attractive cash crop and viewed as a good crop for diversification. Moreover, it is very labour intensive and the curing process to create good quality vanilla can take 3-6 months to complete.

Uganda

2005 estimates suggest Ugandan production of 150 MT was produced by 17,000 smallholders on approximately 2,500 ha. Each smallholder cultivated around 0.1 ha of land and produced the equivalent of 12-15 kg of cured beans. Only 5% of vanilla growing was on areas exceeding 0.8 ha. In addition, there were less than 5,000 collectors/middlemen/traders selling to the exporters who are also processors. Ten processors used the traditional bourbon curing process and another was using the rapid artificial McCormick curing method introduced in the 1970s to process cuts. Based on current Ugandan production an estimated 25,000 are dependent on

MADAGASCAR
Field of vanilla beans wrapped in blankets heating in the sun prior to being placed overnight in a chest to sweat

MADAGASCAR *Sorting bulk cured beans, after slow drying, being graded into bundles (graded by length and whether split or not split)*

vanilla as an important income source, and these in turn would have sizeable family dependents.

Comoros
In 2006 it was estimated that there were 5,918 vanilla growers of which 4,387 were located on Grande Comore and the remainder on the islands of Anjouan and Moheli. The production structure was similar to Madagascar with smallholder growers, collectors financed by merchants, and big buyers who supplied processors and exporters.

ENVIRONMENTAL AND SUSTAINABILITY INITIATIVES

Alongside the direct economic and social benefits generated by the vanilla sector there are also important environmental and sustainability contributions. Increasingly, initiatives are being undertaken in the sector facilitating greater sustainability and assisting in combating climate change.

Over the past decade, vanilla has been at the vanguard of efforts to achieve "sustainable" production. Several large F&F companies, including ADM, DSM Firmenich, Givaudan, IFF, Mane, and Symrise, along with NGOs and some government agencies are leading efforts to achieve sustainable, traceable, and transparent vanilla supply chains and prevent future vanilla crises. The overall aim is to create vanilla production and marketing systems that are economically, environmentally, and socio-economically sustainable. The main programmes aim to help smallholders maintain consistent quality and a sustainable supply through a range of programmes to improve soil fertility, planting of alternative crops alongside vanilla vines, sponsoring education, health care, and food programmes. In addition, various certification programmes (e.g., organic, fairtrade, Rainforest Alliance) are aimed at increasing smallholder incomes and enabling digital traceability while investing in farming communities.

Major companies adopt different strategies to achieve these aims. For example:

ADM - has established a joint venture SAVAN, supplying "direct from the farmer" vanilla throughout the year. Some 4,000 farmers are part of this first-ever farmer-owned supply chain with its own new curing facility and a pioneering large-scale digitally traceable supply alongside investing back into the farmers' communities.

Mane - has integrated the value chain since 1999, implementing various certifications to allow full traceability and CSR actions.

Symrise - one of the largest F&F companies, has invested in vanilla in the Sava region since 2006. Its certified supply chain stretches from pollination to finished vanilla extract, combining local expertise with technology in the most sustainable way possible. It partners with over 7,000 farmers across 84 villages and has established its own quality control laboratories, and an extraction plant, employing more than 150 people running on sustainable local fuel offering another source of local income. Exporting extract is less regulated than vanilla beans and Symrise claims to benefit the livelihoods of 40,000 people. It also provides training and educational support, health insurance, crop diversification advice, and financial advice and support through loans.

SOME CONCLUDING REMARKS

Vanilla production and processing make vital economic, social, and environmental contributions to vanilla producing regions of several producing countries, including Madagascar, Indonesia, PNG, and Uganda. It is a vital source of income for many tens of thousands of smallholders as well as providing a vital source of export earnings. If demand and prices for natural vanilla fall then it will have important consequences for the rural economy in the areas where it is produced. Also, vanilla has a vital environmental and sustainability role helping to maintain biodiversity, assists in combatting deforestation and helps to improve weak social and physical infrastructures.

The future of vanilla is, and will continue to be, unpredictable. Imprecise supply and demand signals, wide stock fluctuations and the threat of product reformulation and substitute materials all help to create a fragile market with lots of risk. These are difficult days for natural vanilla as the industry attempts to recover from the recent crisis, when almost everyone was hoping for an easing of prices. Barring further climatic and political catastrophes the recent high price cycle has come to an end. All major origins have been endeavouring to expand production, while the high prices in the previous five years, combined with the pandemic impacted consumption, some arguing by as much as 30%. Accurate data are difficult to obtain. However, given these factors – and assuming no major catastrophe – then the next few years should see downward price pressure, but the scale of any downturn is difficult to predict.

Unless fundamental changes are made then the extreme cycles in natural vanilla supply and prices will continue. Perhaps agronomic and scientific advances and innovations, such as genetic markers to improve vanilla orchid varieties, with improved yields, flavour, and disease resistance will facilitate the growth of sustainable vanilla production. Biotech innovations may facilitate increased production of natural vanillin. Cooperative processing with improved technology might also assist. Meanwhile, the high prices of recent years have encouraged efforts to substantially increase production, while discouraging consumption, facilitated by product reformulations and the search for, and use of, vanillin alternatives. In contrast, several factors including rising health awareness, increased consumer spending, a willingness to pay a premium for clean-label products, concerns about food adulteration, and a demand for natural products are all encouraging vanilla consumption.

The global vanilla market, like many economies and sectors, was impacted by the COVID-19 pandemic. Vanilla demand, prices and profitability fell during 2020 and 2021 but as economies emerged from the pandemic, and demand for natural products continues to expand, so the vanilla market is predicted to grow over the coming years. The USA and the EU continue to be the dominant export markets, with both regions substantially increasing their imports, pointing to a growing demand for natural vanilla. The Asia Pacific vanilla market, although smaller than the EU and USA, is expected to witness the fastest growth driven by the growing demand for food and beverage agents as these economies emerge from the pandemic. Consumption of natural vanilla products is accelerating with strong demand from both the industrial and retail sectors, while the food service and institutional markets continue to recover from the impact of the pandemic. One source valued the global vanilla market at US$ 1.44 billion in 2021 with an annual growth of 4.5% to reach US $1.96 billion in 2028.

There are undoubted positive signs in the global vanilla market. Demand for natural vanilla continues to grow as the impact of the COVID pandemic recedes and demand from the leisure and tourism sectors grows. Stricter standard and labelling enforcement will benefit some producers. However, there are dark clouds on the horizon ranging from more erratic weather patterns, disrupted supply chains, a major war in Europe, global inflation, rising interest rates, the probability of a severe economic downturn, and an expansion of global vanilla production and stocks. Predicting future vanilla supply and prices will continue to remain difficult and much will depend on developments in Madagascar and the government's vanilla policies and management of carryover stocks.

Over the past decade IFEAT has been producing Socio-Economic Reports (SERs) on the impact of specific naturals in certain parts of the world. The reports are published in IFEATWORLD and uploaded to our website https://bit.ly/3CScliO

Would you like to suggest a product and author a report with IFEAT's assistance as was recently done for the Oregano SER from Turkey? Updates on previous SERs would also be welcome.

The SER is designed to communicate the beneficial impact of the production of a natural product used in the industries served by IFEAT in the area or region in which it is produced. As legislation becomes ever tighter and sustainability, economic and social issues are taken increasingly into account, the SERs are proving very useful for IFEAT and other industry stakeholders in discussions on legislative and regulatory issues. Guidelines on writing SERs are available on request from secretariat@ifeat.org

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SOCIO-ECONOMIC REPORT ON VANILLA

THE 53RD INTERNATIONAL SYMPOSIUM ON ESSENTIAL OILS (ISEO 2023)

13TH TO 16TH SEPTEMBER 2023

The 53rd International Symposium on Essential Oils (ISEO 2023) will take place from 13th to 16th September 2023 in Milazzo (Messina), Italy.

The Symposium aims to bring together scientists involved in essential oils and related natural products research, and to offer unique opportunities for networking and discussion. The event will include scientific sessions with plenary speakers and oral communications as well as poster presentations.

A preliminary programme is available and the Symposium will include a rich exhibition of instrumentation, natural products, and essential oils, along with other informative and advertising materials.

Detailed information regarding registration, the programme, accommodation, and transportation is also available on the website at: https://www.iseoils.com/iseo2023

ISEO SCHOLARSHIPS & IFEAT SUPPORT

As in previous years, IFEAT will support 20 promising young essential oils scientists by providing funds to cover their registration fees.

As well as the ISEO website, you can email the ISEO 2023 Secretariat at: iseo2023@iseoils.com or you can email IFEAT Scientific Enquiries at: scientific.enquiries@ifeat.org

IFRA NEWS

Care homes in the South East of the UK to get a wellbeing boost with new board game focused on smell and memory

A board game that tests people's memory using familiar, everyday smells, has been developed to support social interaction and diminish feelings of isolation amongst older people and care home residents.

Smell & Tell™ is a two-in-one mood boosting game, comprising a board and memory game, that has been designed to be played by care home residents with varying abilities.

The game uses fragrances as a conversation stimulus, and each scent has been carefully selected to remain familiar to UK residents, with the concept of sparking a memory and creating a moment of pleasure. Smells associated with food such as chocolate, toast, and cinnamon feature, along with location and situational-based smells, such as 'kitchen'; 'wardrobe', and even 'dentist'! The game was developed as part of an initiative that challenged employees at fragrance and taste company, Givaudan, to support communities most affected by the impact of the COVID-19 pandemic. Solène Cauvin-Wirz, Oral Care Flavourist, and Zoe Cogger, Oral Care Marketing Manager from Givaudan came up with the idea, after seeing the impact that isolation during the pandemic had on close family members who were residents in care homes. They created the game as a way to stimulate people's memory and as a way for them to interact and have fun. After a successful pilot, they were awarded funding to professionally manufacture 500 games from the Givaudan Foundation, whose mission is to make a difference within the communities where Givaudan sources and operates. The games were donated to care homes in Kent, Surrey, and Greater London this spring.

Smell & Tell™ falls under the umbrella of an initiative created by the International Fragrance Association UK (IFRA UK) called *Changing Lives Through Fragrance*, which brings together people from across the industry to highlight and promote the importance of our sense of smell. This year the focus of the programme is around wellbeing and dementia. Rhian Slee, Chair of IFRA UK, said: *"The COVID-19 pandemic really highlighted to us how important our sense of smell is and how not having a functioning sense of smell can really impact on your life - sometimes leading to feelings of isolation and depression.*

"Yet our sense of smell is vital to our wellbeing because the olfactory receptors in the nose connect us directly to areas of the brain that create memories. That's why our sense of smell is so important to our wellbeing and to feeling connected as it links us to familiar aromas evoking feelings of nostalgia. We are delighted to have developed Smell & Tell™ through the Givaudan Foundation as we hope it is going to bring a sense of connection and enjoyment to the people in the care homes we are able to supply it to."

The creation of a website www.fragrancematters.org provides a place to find out more information about our sense of smell – from quirky facts to more in-depth information. It also acts as a portal for anyone wanting to find out more about smell loss and signposts news articles, podcasts, and scientific research that really highlight the incredible power of our sense of smell.

EUROPEAN GREEN DEAL POSES AN EXISTENTIAL THREAT TO ESSENTIAL OILS

The European Green Deal[1] has set the European Union (EU) on course to become a sustainable climate neutral and circular economy by 2050. One of the pillars of the Green Deal known as the Chemicals Strategy for Sustainability (CSS, adopted in October 2020)[2] aims to better protect human health and the environment as part of an ambitious approach to tackle pollution from all sources and move towards a toxic-free environment. In other words, the CSS aims to protect citizens and the environment from the most hazardous chemicals and to boost innovation by promoting the use of safer and more sustainable chemicals.

The EU already has comprehensive and protective regulatory frameworks in place addressing the production and use of chemical substances and their potential impact on human health and the environment, notably under the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation (2006)[3] and the Classification, Labelling and Packaging (CLP) Regulation (2008)[4] which is the EU implementation of the Globally Harmonised System (GHS) for classification, labelling, and packaging of chemical substances and mixtures.

The new regulations and directives resulting from the Green Deal and the CSS will, in a first phase, involve revision of both the REACH and CLP Regulations and **may create unintended but potentially catastrophic consequences for the production, trade, and use of essential oils (EOs) and related natural plant extracts such as concretes, absolutes, and oleoresins**. Collectively, such materials are often referred to as Natural Complex Substances (NCSs).

While the ultimate goals of the new regulations and directives are well-intended and generally supported by IFEAT, as well as other affiliated industry Associations, full implementation of the CSS carries at least four immediate and serious threats for the EO and NCS sector[5]:

1 Regulation of EOs would be based on a hazard determination of individual constituents as opposed to an evaluation of the toxicology of the substance as a whole.

2 The creation of five new hazard classes within the CLP may lead to a ban on many EOs.

3 Replacement of current risk-based safety assessments to hazard-based assessments.

4 Increase in REACH dossier requirements, especially for small volume materials, will cause extreme hardship to SMEs (small and medium-sized enterprises).

Further explanations are provided in the annexes below.

IFEAT has embarked on a campaign to address these potential legislative perils to our industry and is working with the European Federation of Essential Oils (EFEO) as well as other associations including IFRA, IOFI, and RIFM (including their respective regional members such as FCA, FEMA, EFFA, etc.) to coordinate advocacy efforts, communications, and outreach initiatives with EU competent authorities. IFEAT is also in contact with other regional and national authority institutions to mitigate threats on essential oils and other naturals from the proposed revisions. These initiatives cross the breadth of several areas: direct lobbying efforts along with other public and strategic communication measures are involved, as we promote positive aspects of the essential oil industry including socio-economic and product benefit considerations (sensory, health related, etc.) across the EU and beyond.

ANNEXES - EUROPEAN GREEN DEAL POSES AN EXISTENTIAL THREAT TO ESSENTIAL OILS

As described in the accompanying communication document, full implementation of the EU Chemicals Strategy for Sustainability (CSS)[2] carries at least four serious and immediate threats for essential oils (EOs) and Natural Complex Substances (NCSs), indeed potentially threatening the very existence of many. These are explained further below.

Annexe 1 - Further details on immediate topics of concern

1 Essential oils (EOs) would be categorised as MOCS (more than one constituent substances) under REACH[3] and CLP[4] and thereby regulated based on the toxicology properties of their individual constituents as opposed to evaluated as a whole substance (full oil). EOs containing components such as methyl eugenol (rose oil) and gamma-terpinene (cumin, ginger, lemon, cloves, coriander), for example, or indeed other individual components considered hazardous under CLP may be banned even if the toxicology concern generated by individual components may be scientifically shown to be absent in the full oil. This would be further aggravated by the consequences of point (2) below.

2 Some five new hazard classes have been added to CLP during the recent revision process, potentially affecting several EOs and NCSs. These are listed below:

- ED: endocrine disruptors
- PBT: persistent bioaccumulative and toxic: these substances are harmful chemicals that do not break down easily in the environment and are especially hazardous for human health and ecosystems
- vPvB: substances that are very persistent and very bioaccumulative
- PMT: persistent, mobile, and toxic
- vPvM: very persistent, very mobile

The CLP revision was published on 19th December 2022 and was submitted to the European Parliament for further consultation in January 2023. EU Commission Delegated Regulation (EU) 2023/707 introducing new hazard classes to the CLP was then published on 31st March 2023 in the EU Official Journal and became effective on 20th April 2023. As a result of these new hazard classes and evaluation of the individual components of EOs as described in point (1), there is high probability that EOs and NCSs become so-called substances of very high concern (SVHCs) under REACH and could be banned because they contain constituents considered harmful for the environment and/or human health.

3 The EU intends to move from risk-based safety assessment (risk = hazard + exposure levels) to assessments based on hazard alone. i.e., the principle of "safe for its intended use" concept would no longer be recognized, a concept well accepted and recognised for flavour materials under the FEMA GRAS process. This implies that if one constituent present in an EO or NCS is deemed hazardous, then the whole oil would be classified as hazardous. Under the pending revision of REACH, this may result in a restriction or outright ban on the use of the EO or the NCSs either as itself or as an ingredient in consumer end use products within the EU.

In February 2023, the Fragrance Creators Association (FCA) published a white paper on the Importance of Comprehensive Assessments in Evaluating Fragrance Ingredients including scientific information contributed by the Research Institute for Fragrance Materials (RIFM). The paper was developed to clearly explain why risk assessment accounting for both hazard and exposure is the appropriate approach for evaluating the safety of fragrance ingredients and, further, that "grouping" of structurally similar chemicals is a complicated process that must be scientifically validated. In other words, the white paper highlights the potential impacts on the fragrance industry of chemical classification based on a hazard approach that includes the potential for broad chemical grouping and identifies science-based advocacy messaging that can be used to educate regulators on why this approach is inappropriate for fragrance ingredients including EOs and NCSs[6].

4 The revision of REACH under the CSS will impose dossier requirements for materials in the 1-10 MT/year category to adopt the same documentation and testing requirements as for products in the 10-100 MT/year band. This represents a terrible burden for SMEs. Recall that 85% of the current EO and NCS registrations under REACH are in the 1-10 MT/year volume band [5]. In addition, new tests for endocrine disruption and other novel hazard classes under CLP mentioned above would be required for the 1-10 MT/year volume band (and upwards). Such requirements could translate into additional costs of between EUR 100k to 400k per substance [5].

Annexe 2 - Timeline

1 Revision of CLP

a. Delegated Act

- Scrutiny of Parliament and Council: February–May 2023
- Publication in the Official Journal: June 2023
- Entry into force: July 2023
- Time of application: + 24/42 months (substances) and 36/60 months (mixtures)
- Guidance document adopted by ECHA: June 2024.

b. Ordinary Legislative Procedure (including MOCS)

- Start formal procedure at Parliament and Council level: February - March 2023
- Parliamentary process: March – October 2023
- Negotiations Council-Parliament: November 2023 – February 2024 (at the earliest)
- Final agreement March – April 2024 (before European elections)

2 Revision of REACH

- Postponed to end of 2023
- REACH Revisions finalised by European Commission: December 2023
- REACH Revisions adopted by European Parliament; expected December 2024

The Presidency of the Council of the European Union is currently held by Sweden (from 1st January to 30th June 2023) and will be held by Spain from 1st July to 31st December 2023.

Annexe 3 - Abbreviations

CLP - Classification, Labelling and Packaging Legislation

CSS - Chemicals Strategy for Sustainability

ECHA - European Chemicals Agency

EFEO - European Federation of Essential Oils

EFFA - European Flavour Association

EO - Essential Oils

EU – European Union

FCA - Fragrance Creators Association

FEMA - Flavor and Extract Manufacturers Association of the United States

IOFI - International Organisation of the Flavor Industry

IFRA - International Fragrance Association

MOCS - More than One Constituent Substances

NCS - Natural Complex Substance

REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Legislation

RIFM - Research Institute for Fragrance Materials

SME - Small and Medium Enterprises

SVHC - Substances of Very High Concern

Annexe 4 - References

[1] EU Strategy & Policy - Green Deal https://bit.ly/3JAkCvA

[2] EU Chemicals Strategy for Sustainability Towards a Toxic-Free Environment https://bit.ly/434dD4S

[3] EU REACH Regulation: https://bit.ly/44lCBh7

[4] EU CLP Regulation: https://bit.ly/3Xrd9Vh

[5] European Green Deal, through CSS, threatens the existence of Essential Oils, by Laure Moutet (EFEO Board Member), EFEO Newsletter 05/2022. For EFFEO newsletters visit: https://bit.ly/43alflm

[6] The Importance of Comprehensive Assessments in Evaluating Fragrance Ingredients

MY FAVOURITE

BAY OIL WEST INDIAN

BY HENRY GILL

Granted, this might seem an odd choice! Whilst certainly not unpleasant, the mixture of spice, green notes, and floral hints isn't to everyone's taste. Freshly distilled and in bulk, there was more than a touch of petrol (to my admittedly untrained nose). I was assured this was nothing to do with the vintage jerrycans involved!

I chose this oil because it took me on an adventure half-way around the world, where I acted as part explorer, buyer, lab technician, and shipping coordinator, with tens of thousands of dollars strapped to my person and my baggage allowance taken up by empty plastic drums. I had some very odd looks as I checked in for my flight!

To the best of my knowledge the only commercial production of oil from *Pimenta racemosa* today is from Dominica, despite it growing throughout the Caribbean. Certainly this wasn't always the case, and one of its common names, bay rum, derives from the practice of early 20th century European sailors soaking bay leaves in their daily tot of rum. This would then be applied to the body to improve one's odour. Additional relief may have been derived from the reported effects on arthritis and insect bites.

Following Tropical Storm Erika in 2015 and Hurricane Maria in September 2017, Dominica's infrastructure and economy were devastated. Erika caused the destruction of a major distillery resulting in severely reduced quantities of oil being produced and exported. With the country already struggling, Maria then decimated what was left, resulting in complete economic paralysis. With nothing to export, ships began by-passing Roseau, stopping only to drop off aid and even then only when weather permitted (the piers are unprotected and so susceptible to westerly swells).

It was therefore quite a surprise when in late 2017 I received a call from someone claiming to have bay oil to sell. After much back and forth, it became clear that the only way of verifying what was being said was to go there in person. As you might imagine, there was much eye-rolling in the office when I announced this.

As I thought through the reality of what was required, it dawned on me that I would need to take everything with me. Basic supplies on the ground were extremely limited and there was certainly no suitable packaging in the country, so that meant as many drums as I could feasibly get away with in my luggage. Fortunately it was a shorts and t-shirt kind of trip. To the extent that it was possible, I also felt I needed to carry out some basic analysis in situ, so I purchased a hydrometer to measure specific gravity. This in conjunction with my assessment of odour and appearance would have to suffice - at least until I returned back to our lab in the UK.

Weather was to continue to play a role, with the UK experiencing a deep

SIGNS OF LIFE AS LEAVES REAPPEAR ON ROYAL PALMS freeze in the days immediately prior to my departure. Despite discussions of the weather being a national pastime, as a country we are fairly useless at dealing with it. Several inches of snow accumulated into drifts shutting roads and with it most businesses. It was therefore a huge relief to find the local post office, which was holding the dollars I'd ordered, had opened just for me (so as not to ruin my upcoming 'holiday').

There are no direct flights to Dominica from the UK so Antigua was the staging post. Having been there once before, there was some comfort in the familiar surroundings of the hotel ahead of quite a daunting next leg. Arriving late one night in early March, I was back out to the airport first thing the following day as one of the few people travelling to Dominica at that time. On arrival I paid the necessary fee for a 'business visa' and along with my several drums, set off in my hired jeep.

Thinking back to my first impressions, I recall looking around the airfield as I got out of the plane and seeing thousands of trees stripped of their leaves. They looked like dandelion heads with all their seeds blown away. I had barely made it a few hundred metres out of the airport before I encountered the first stretch of road that had washed away. Over the next few days I would become quite adept at fording rivers as I navigated the island.

That first afternoon I met with my contacts, Sas and Roy. Understandably we were all a bit nervous; this was clearly a new venture for them and of course I was totally ignorant of the country. I couldn't even have picked out a bay tree had it been right in front of me. In hindsight I have nothing but admiration for them; they saw an opportunity to start a business and bring vital dollars into the country when the traditional supply route seemed mired in inertia and utterly uninterested. From our perspective, I was pleased that I could see our money was going to directly benefit people living and working in Dominica during a particularly difficult time.

Over the next two days we seemed to drive endlessly around the island. I saw distilleries in various states of function and became far more adept at recognising bay. Whereas the leafier vegetation had been stripped of their fronds, the more compact, shrub-like bay had fared much better and were in full leaf. On my third day of early starts I was starting to worry as I hadn't seen so much as a drop of oil.

Alongside this I spent many hours each afternoon in Roseau working out how to get my as yet unrealised cargo out of the country. Being dangerous goods no airline would accept it so I had to rely upon the, at the time, sporadic sailings back to the UK. I had only a few days on the island and my sense of urgency didn't always go down well but piece by piece I ironed out the wrinkles and agreed on a plan with my new best friends the freight forwarders.

As it turned out, the first few days had been some kind of test which I had apparently passed as I was finally taken to their stocks of oil. It was now time for me to switch roles and don my QC (quality control) hat. Samples were drawn and in 'a Blue Peter moment'*, evaluated against one I had prepared earlier (brought out with me). Much to the amusement of my new business partners, I also insisted on using the hydrometer I'd packed. Odour, appearance, and specific gravity were the limits of what I could do on site. Anything further would have to wait until I was back home. With the limited QC passed and having already agreed on a price, we set about decanting the oil. Helpfully I had also packed a stainless steel funnel and oversized graduated cylinder although plenty still ended up on the floor. The final step was to seal the drums up and confirm the weights on a particularly vintage set of scales.

With the product secured, it was now a race to get the paperwork prepared for the next sailing out of Roseau. The commercial invoice had to follow a particular format for Caribbean Common Market and with no computer or printer available everything was handwritten several times before we finally got it right. With the goods now delivered to the forwarder's warehouse and having parted ways with much of my cash, I bid farewell to Sas and Roy, keeping my fingers crossed that the samples I had with me would pass and the goods arrive a few weeks later.

As the proverb goes, "all work and no play makes Jack a dull boy" and with that in mind, a few extra days were spent in Antigua, ostensibly to allow for a dash back to Dominica if necessary. Fortunately any worries were to be misplaced and from the most unlikely of beginnings, an ongoing business relationship was started that also led to undoubtedly the most memorable business trip I have ever taken.

*Blue Peter is a UK children's programme. They often make things on the programme and always bring out a finished version using the phrase "here's one I made earlier" rather than showing the whole process of making it.

THE SCALE OF DEVASTATION WAS ENORMOUS

TREES STRIPPED OF THEIR LEAVES
at Douglas-Charles Airport

A SECTION OF THE MAIN WEST COAST ROAD

FORDING RIVERS WAS OFTEN NECESSARY

FURTHER SCENES OF DESTRUCTION

A DAMAGED DISTILLERY

CAREFULLY MEASURING OUT THE OIL

BAY WEST INDIAN
or Pimenta racemosa

GROWING WILD BY THE ROADSIDE

IN THE NEWS

ESSENTIAL OILS AND FOREST EXTRACTS: COMPLEX, UNIQUE AND VULNERABLE INDUSTRIES FACING EU GREEN DEAL

BY ALAIN FRIX

In light of the laudable EU Green Deal perspectives for a cleaner and safer environment, this article presents a holistic approach to the world of natural scents and extracts, and in particular essential oils, from different angles such as their intrinsic complexity, socio-economic importance and vulnerability, underlying dynamics and reflections on petrochemical alternatives for our society. Forests, shrubs, flowers and essential oils are very complex and fragile worlds with many similarities. All plants produce very large amounts of Volatile Organic Compounds (VOCs) as a result of their metabolism. These biogenic VOCs are numerous (more than 1,000 types of volatile chemicals) and have been part of a natural ecosystem for millions of years. Many VOCs have what we have found to be identifiable functions, such as a means of communication (between plants, but also between plants and animals) or protection against climatic factors. Some of these VOCs have an odour and determine the different scents between flowers, shrubs and forests. Their beneficial effects on human health are becoming better understood; these same VOCs are also the basis for that relaxing walk in the woods we love. Most essential oils are produced by the steam distillation of plants, flowers, herbs, barks, and woods, and the resulting natural oil contains the valuable VOCs captured from the biomass. As such, essential oils carry the natural footprint of plants.

You can read the full article here: **https://bit.ly/3Jzov3H**

IFEAT WELCOMES TWO NEW STAFF MEMBERS

IFEAT is pleased to welcome two new members to the staff team. Shaehzad Choudhry joins as the new Events Manager and Becki Simpson supports the staff as Administration Assistant.

Shaehzad comes to IFEAT with over 13 years of experience leading global teams in the planning and delivering of memorable global events for a diverse range of clients. He has organised events in a number of areas including the education and pharmaceutical industries, from study tours, meetings, and training sessions to large scale global conferences.

"I'm excited to be on board with a unique membership organisation that cares for its industry. Our global Executive Committee members and colleagues are very supportive and have created an approachable environment. As we gear up for this year's Conference, I aim to ensure our delegates have a memorable experience and moving forward, I would like to add further value by helping to expand our events programme," said Shaehzad.

Becki, originally from the north of England, moved to New Zealand at the age of 11 and spent 12 years there until returning to the UK in 2019. She has worked extensively in administration, as well as hospitality management, and the real estate industry. Becki was also previously a wedding planner and a professional pet sitter!

Becki said: *"It's wonderful to have joined a global federation in an industry that I love, along with being able to work so closely with events again. The team is great to work with - it's a really close family environment which is a breath of fresh air!*

I'm looking forward to visiting different places, meeting delegates at the annual Conference as well as being able to broaden my skills in different areas of the business, such as events, finance, and the study tours!"

NEW IFEAT MEMBERS

Below is a list of new IFEAT Members who had joined by 31st May 2023

Prodasynth S.A.S
4 Av. Joseph Honoré Isnard, 06130 Grasse, France
Contact: Dimitar Velkov
Email: dvelkov@prodasynth.com
Web: www.prodasynth.com/index.php/fr

Prodasynth was founded in 1989, in response to a growing demand for ingredients for the flavours and fragrances industry. In 2013, Grupo Ventós acquired Prodasynth as part of its international development and vertical integration plan.

WholeChem, LLC
9900 Durand Avenue, Sturtevant, WI 53177, USA
Contact: Sam Modder
Email: sam@wholechem.com
Web: www.wholechem.com

WholeChem is a custom manufacturer and distributor of specialty ingredients for flavours and fragrances, cosmetics, and personal care products.

M/S Aggarwwal Exports
B/ 6-9, Roshan Bagh Industrial Estate, Rampur, U.P.-244901, India
Contact: Neeraj Gupta
Email: exports@agexpharma.com
Contact: Pranjal Varshney
Email: Pranjal@agexpharma.com
Web: www.agexpharma.com

Aggarwwal Exports started in 1990 and since then the company has grown, satisfying its global customers with international standard products and timely delivery at cost-effective prices. The Company is a major exporter of aroma chemicals all over the world, supplying essential oils, chemicals, and blends with an emphasis on achieving the highest quality standards, keeping in mind safety, health, and the environment.

iCHESS Extract Pvt. Ltd.
906, The Summit Business Bay, Andheri Kurla Road, Andheri (East), Mumbai 400093, India
Contact: Christopher Bluemel
Email: cb@thextractcompany.com
cb@i-chess.com
Web: www.thextractcompany.com

i-CHESS is a 15 years young company that focusses on custom manufacturing (custom synthesis and extractions) of niche and specialty molecules.

Yunnan Fine Sourcing Ltd.
Room 22, 1st Floor, Building 2, Zhongyanglicheng. No.33 Xichang Road, Kunming, Yunnan Province, China
Contact: Tiffany Shen
Ni Bo
Email: shenyanjia@finesourcing.com
Web: www.ynfinesourcing.com

Though newly established, YFS's personnel have rich experience after being in the industry for 34 years. It aims to sustainably apply quality products to customers.

Ecoarts Enterprise (Shanghai) Co.,Ltd.
Room 3601, No.1 Building, No.700 Liquan Road, Putuo District, 200333 Shanghai, China
Contact: YouMing (Robin) Lu
Email: import@ecoarts.cn
Web: www.ecoarts.cn/en/index.htm

Ecoarts mainly imports 100% pure aroma products, such as essential oils, vegetable oil, and hydrosol. Please contact us if you have endemic advantages.

K.V. Aromatics Private India
D-212-215, EPIP, Site-V, Surajpur Industrial Area Kasna, Greater Noida - 201306, Gautam Budh Nagar, UP, India
Contact: Himanshu Agarwal
Chetan Singh
Email: kvaromatics.sales@gmail.com
Web: www.kvaromatics.com

K.V. Aromatics is one of the leading manufacturers, exporters, and suppliers of mint products such as menthol crystals, peppermint oil, spearmint oil, and piperita oil.

Admes Ltd.
MLADOST 4 / B. 403-3-21, Sofia 1715, Bulgaria
Contact: Andrey Mitov
Email: andrey.mitov@admesoils.com
Web: www.admesoils.com

Registered in 2005, Admes started with brokering activity in the essential oils industry and is now acting as a wholesale supplier directly from selected local distilleries.

Sunareva S.A.
Ruta 101, KM 23.5, 14.000 Canelones, Uruguay
Contact: Florencia Williamson
Email: florencia@sunareva.com
Web: https://sunareva.com/en

Founded in 2019 in Uruguay, Sunareva has since expanded its portfolio of citrus essential oils for the flavour and fragrance industry.

Laboratoire Rosier Davenne
305 route de la Gare, 84470 Chateauneuf De Gadagne, France
Contact: Charles Rosier
Email: crosier@laboratoire-rosier-davenne.com
Web: www.laboratoire-rosier-davenne.com/en

Located in Provence, Laboratoire Rosier Davenne is specialised in natural perfume and essential oils, for use in aromatherapy, cosmetics, pharmaceutical purposes, or for home fragrances.

Baller S.R.L.
S.S. 114 KM 4,600 Pistunina Messina, Italy
Contact: Mariachiara Canvas
Email: m.cannavo@baller1828.com
info@baller1828.com
Web: www.baller1828.com

Far back in 1828, Baller was founded and started its own activity in the citrus derivatives sector, particularly in essential oils.

Florasintesis Fragrancias Y Aromas Cia. Ltda.
Antonio Basantes Oe1-189 y Francisco Garcia, Quito 170303, Ecuador
Contact: Adela Pachero
Email: apacheco@florasintesis.com.ec
Ignacio Sosa
Email: isosa@florasintesis.com.ec
Web: https://florasintesis.com.ec

With 33 years developing fragrances and flavours for more than 3,000 manufacturers who share the conviction that a note, an aroma, or a flavour makes a difference in the market.

Nature Packaged LLC
W4228 Church Road, Waldo, WI 53093, USA
Contact: Dan TenNapel
Email: dan.tennapel@naturepackaged.com
Web: https://naturepackaged.com

Nature Packaged is creating a marketplace to connect consumers straight to the source of essential oils and natural ingredients.

Copperhead Sandalwood
Suite 1, 1 Tully Road, East Perth, WA 6004, Australia
Contact: Kristy Pender
Email: kristy@copperheadsandalwood.com
Web: www.copperheadsandalwood.com

With farming and forestry expertise, paired with the industry's strongest team of experts, Copperhead Sandalwood is a leader in the Indian sandalwood plantation industry.

Vee Kay International
249, Civil Lines, BAOAUN- 243601 (UP), India
Contact: Sharad Mohan Maheshwai
Neha Khan
Email: vki@vki.co.in
Web: https://vki.co.in

Manufacturer and leading exporter of essential oils and aroma isolates since 2005, based in the north of India famous for the cultivation of world class mint species.

Inter-Agri Oils
Bushey Valley Farm, Oribi Flats, Plains Rural, KwaZulu-Natal, 4243, South Africa
Contact: Mary Barnard
Email: sales@interagrioils.com
Web: www.interagrioils.com

Inter-Agri Oils is a proudly South African, family-owned farming enterprise specialising in the production, processing, and exporting of premium essential oils and nut oils.

Thomas Nick chemnickals e.U.
Habsburgergasse 7, 3034 Maria Anzbach, Austria
Contact: Thomas Nick
Email: thomas.nick@chemnickals.com

Connecting chemical industries worldwide. Connecting raw material - technology - outlet. Connecting oroducers with new markets, aroma chemicals - bio-based solvents - PO-free fatty acids.

Victoria Agro Processors Ltd. (VAPL)
312, 3rd Floor, Pan Africa House, Kimathi Avenue, Kampala, Uganda
Contact: Ranjeet Bhansali
Email: ranjeetgbhansali@gmail.com
Web: www.arogreen.com

Victoria Agro has its own aromatic crops plantation on 2,000 acres and a factory for processing essential oils in Uganda, East Africa. We produce many different essential oils.

Arogreen, S.L.
Compositor Verdi, 84, 08191 Rubi, Barcelona, Spain
312, 3rd Floor, Pan Africa House, Kimathi Avenue, Kampala, Uganda
Contact: Joan Subirats
Email: jsubirats@arogreen.com
Alexandre Duch
Email: aduch@arogreen.com
Web: www.arogreen.com

We are a young and dynamic company in the F&F sector. Arogreen is the new European manufacturer as well as distributor of raw materials.

THE INTERNATIONAL FEDERATION OF ESSENTIAL OILS AND AROMA TRADES LIMITED

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