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Essential Oil and Oleoresins

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Disclaimer

Market News Service

Essential Oils & Oleoresins, EU and US Market Report

Report prepared for ITC's Market News Service by:
EU markets: Mr. Steve Caiger (steve.caiger@highvaluehorticulture.com)
US markets: Ms. Kerry Hughes(kerry@ethnopharm.com)

The Market News Service of the International Trade Centre UNCTAD/WTO (ITC) provides timely and detailed price and market information on selected primary and semi-processed products of particular interest to developing countries and economies in transition. Regular access to such information is vital to companies deciding when and where they should sell or buy products on international markets. MNS thus aims to serve as a market intelligence tool, to enable developing countries realize their full income potential through global trade expansion. MNS does not act as a broker and is exclusively an information service with the objective of improving market transparency and encouraging price and quality competition for the benefit of all market players.

MNS' team of product specialists draws its information from a network of correspondents in many countries worldwide, collecting up-to-date data on wholesale prices paid for specific products, supply and demand trends, and economic, climatic and legislative information that can affect the short-term market situation of particular products. MNS' information providers include major importers, exporters, manufacturers, wholesalers, and governmental organizations. We continuously encourage and welcome new sources of information. Should you be interested in becoming an information provider and contributing to MNS' efforts to improve market transparency and facilitate trade, please contact us at mns@intracen.org.

For more information about the report and the Market News Service, please contact mns@intracen.org or visit our website on http://www.p-maps.org/mns

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Market Trends

EU Market

The following comments were collected from the trade on the supply of oils to the markets:

Lemon, and Mandarin

European supply of these oils is reduced, due to small crops in the main European origins, and prices are firming. For lemons, the Turkish crop was down by around 40% form typical levels, and Italian and Spainish crops were also reduced. Demand for the fresh fruit remained firm, so supplies to processors were restricted and oil production will be reduced. There is little inventory left in South America and the new crop will not arrive until April/May. For mandarin, European fruit production was seriously affected, with the mandarin crop in southern Italy down by around 70%. Supplies will be restricted, and prices can be expected to rise.

Lime Oil (distilled)

Prices are still firm, reflecting a general excess of demand over supply. The new Mexican crop is expected to start in April and is volumes are looking normal.

Coriander Oil

Supplies from Eastern Europe and Russia are very sharply reduced, and prices are rising sharply as a result. There are minimal stocks of oil at origin, and oil prices are now being projected based on current coriander seed prices. Oil supplies are highly dependent on seed production from E Europe and Russia, as production in the other origins is of larger-seeded types with a much lower oil content that are used for seasoning. Current oil prices have risen to US$85/kg (€55/kg) and there is talk of prices rising to US$100/kg (€65/kg). The decline of the dollar is likely to add to the upward momentum of prices.

Nutmeg Oil

Supplies from the producing areas in Indonesia are reduced, and prices have risen in consequence.

Tea Tree Oil

Supplies from Australia are down due to bad weather during the last winter season. The current spot price is sharply increased, up to $36/kg from US$29/kg (€23.40 from €18.80).

Citronella Oil (Java and Ceylon types)

Prices for both types are increasing. Disruption in the major producing origins of Indonesia and Sri Lanka due to the impact of the tsumani depressing agricultural production as people have concentrated on rebuilding housing and damaged infrastructure is partly blamed but the recent sharp declines in the value of the US$ will also be implicated. Spot prices for Ceylon citronella have moved up to US$23.50/kg from US$19/kg at the start of the year (€15.25 from €12.33). Prices for Indonesian (Java type) have increased from US$9.50/kg to US$11/kg (€6.15 to €7.15). Prices for Chinese citronella (Java type) are around US$10/kg (€6.50).

Vetiver Oil

Bad weather in the Chinese and Indonesian producing areas has reduced supplies and is pushing up prices. The oil has moved well off its lows of US$63/kg (€41/kg) in 2006 and early 2007, and is continuing to rise steadily. Current prices are now around US$70/kg cif (€45.45/kg) for Chinese and Indonesian product, and spot prices have risen to US$85/kg (€55/kg).

Patchouli oil

Prices are starting to come of the highs of 2007 as new production starts to come into production in Indonesia. Prices have declined substantially, and a continuing gradual decline can be expected.

Menthol Crystals & Mint Oil

The Indian Government Budget of March 2008 has exempted menthol powder and crystals from excise duty (previously at 16% except in certain exempt States such as Kashmir). It is not yet clear what effect this will have on export prices – producers in the exempt States will no longer have a duty advantage over the other States, and may now find themselves uncompetitive and will reduce or stop production.

Market Trends

US Market

General Comment

US importers are still seeing patchouli oil at exceedingly high prices, as well as now vetiver increasing in price. Bergamont still remains about 40% above last year's prices due to a high demand and bad crop production. The same is expected for red and green mandarins. Whereas the price of conventionally produced red/pink grapefruit essential oil has fallen back down to normal ranges (around $18/kg), the organically produced oil is still at about $150/kg. The Ylang essential oils are remaining difficult to source and are expensive (as they have been the past four years), but the new crop starts soon. Ravintsara oil also seems to keep increasing in price.

Karl Poehlmann a US Importer with the George UHE Company reports on the market for specific essential oils from the Indian Market:

Davana Oil

This is the end of the season and new crop distillations will start in small quantities at the end of the month (March). Overseas buyers have been holding on purchases since December, waiting for affordable prices from the new crop distillation, however, weather variations, un seasonal rains and an overall reduction of the cultivating area due to industrialization has affected the new crop adversely and prices are not expected to reach back to the original prices of USD 225/kg which were common at the start of last year.

Lemongrass Oil:

There is a shortage of oil in the market, and distillation is almost at a standstill due to flowering of the lemongrass plants. Whatever oil is being distilled yields very low citral. Demand has been higher than ever, so prices have moved up at the origins. This situation is predicted to continue until May when new distillation will begin.

Palmarosa Oil:

This is the best time to get good quality material at lower prices. Unlike lemongrass, Palmarosa oil is superior and has a higher yield when distilled from the plants and flowers.

Celery Oil:

Large scale unusual purchases by a multi-national corporation has resulted in the increases of celery prices since August 2007, and this trend will now continue until the new crop in June. Celery oil prices, according to the current rm price, are USD 80/kg on cost basis; however, distillers who have previous stocks are offering oil up to USD 70-75/kg levels.

Ginger Oil:

Prices for Cochin ginger have been firming up in price.

Cardamom Oil:

South Indian cardamom prices have been rocketing since August 2007, and is still on its upward pace.

Black Pepper Oil:

Black pepper prices have never stopped their upward price movement in the last two years. Sri Lankan extraction grade pepper, which is used in bulk for pepper oil distillation today is USD 3,600-3,700/MT as compared to USD 1,300, which prevailed in January 2006. The Indian prices are also at similar levels. The new crop is expected in September, far off from now. Extraction grade light pepper is now available in bulk in India, so pepper oil is going to be a precious commodity. There is no distillation of pepper oil in Sri Lanka, thus the source is limited to 4-5 major oleoresin manufacturers in South India, Cochin region. They are holding stocks for more favourable prices.

Mints (arvensis):

The mint market has been quiet and stable. The market was expected to firm up since opening in January 2008, but there has not been buyer pressure from overseas market to raise the price. China—being out of the market for the last two months—could be a specific reason for the stable prices. Menthol crystals are quoted in bulk at USD 16-16.5/kg levels for many containers, and these prices are lower than the market today—less than the cost of production. Mentha piperita prices are stable, with low availability of pure genuine oil.

Indonesian Gurjun Balsam Oil:

Prices of this oil have been increasing and are now about 3.5 times increased. According to an Indonesian producer, the product must be pricing at about USD 10/kg CFC 3% then producers will start to produce, but under this price they will not produce it. As a rule of thumb, the price of this product tends to follow the price of patchouli oil proportionately to be pricing around 10% from the actual price of patchouli oil, as some of the buyers use this product to mix with pure patchouli oil and certain buyers tolerate 5% to 15% gurgun balsam content in patchouli oil which is so called “standard patchouli oil” in India.

Country and Product focus

Sri Lanka

The essential oil and oleoresin production sector in Sri Lanka is primarily based on its spice sector. The core spices produced are true cinnamon (Cinnamomum zeylanicum), pepper, nutmeg, clove and cardamom. Cinnamon gives both leaf[1] and bark oils. Clove leaf oil is not produced in any quantity. Sri Lanka is also known for the production of Ceylon Citronella oil (Cymbopogon nardus), different to the main East Indian (Java type) production from C winterianus[2]. There is also minor production of vetiver, lemongrass, basil and a few other herb oils.

The spice oils are the by-products of the spice sector. The core production is of the whole dried spice. The spice production sector is an important element of Sri Lankan agriculture. The total area planted to spice crops is around 90,000 ha, around 9% of all land under perennial crops. Production (with the exception of cardamoms) is mainly smallholder based. Over 300,000 small-scale growers are involved in spice crop production, of whom around 90,000 depend on spices for the main family income. Total annual export volumes of all spices are around 30,000 tonnes. Export volumes by major spice are shown in Table 1. The estimated areas planted to the major crops are shown in Table 2.

Table 1 Annual Spice Export Volumes, by Spice, 2006, tonnes

Spice	Tonnes
Cinnamon	12,334
Pepper	8,190
Cloves	2,435
Clove stems	510
Nutmeg	1,513
Mace	209
Cardamom	6
Vanilla	0.1
Arecanut	1,843
Betel nut	2,613
TOTAL	29,653

Source: Department of Export Agriculture/Customs

[1] A source of eugenol

[2] The Ceylon type of citronella oil is a pale-yellow to yellowish-brown liquid and contains 7-15% aldehyde and 55-65% total alcohol. The Java type is a clear, light yellow to brownish liquid and has a content of 30-45% aldehyde and 32-35% total alcohol. The Ceylon type of oil has a characteristic citronellal-like smell, whereas the Java type has a strong lemon-like odour. In the Ceylon type of citronella oil the main constituents are geraniol (18-20%), citronellol (6.4-8.4%), citronellal (5-15%), geranyl acetate (2%), limonene (9-11%), and methyl isoeugenol (7.2-11.3%). In the Java type citronella oil the main constituents are citronellal (32-45%), geraniol (21-24%), citronellol (11-15%), geranyl acetate (3-8%), limonene (1.3-3.9%), elemol and sesquiterpene alcohols (2-5%)

Table 2 Estimated Planted Area of Spice Crops, ha

Spice	Ha
Cinnamon	25,545
Pepper	32,436
Cloves	10,696
Nutmeg	999
Cardamom	4,712
Citronella	3,405

Source: Department of Export Agriculture

The main spice crop production area for pepper, clove, nutmeg and cardamom are in the wet mid-country areas – Kandy, Matale, Kurunegala, Kegalla and Ratnapura Districts. Cinnamon production is concentrated in Galle and Matara Districts in the South, but there is also significant production in Ratnapura and Kalutara Districts. Citronella production is concentrated in the dry area of Hambantota District in the South East of the country.

Figure 1 Map of Sri Lanka

Essential oil export volumes and values over the period 2001 to 2006 are given in Tables 3 and 4. The key characteristics of the essential oil production sector are:

- The sector is relatively small – with an export value of around US$5 million, and export volume around 300 tonnes. Volumes and values are dominated by cinnamon leaf oil, which accounts for around 75% of total export volumes. With the exception of cinnamon, the spice export trade is primarily to regional markets, together with significant domestic demand, and these 2 markets are in direct competition for product qualities that typically go for distillation, limiting feedstock supply to the distillation sector. Domestic demand takes in between 40 to 70% of pepper production depending on crop levels, an estimated 3,500 tonnes of cinnamon, 800 tonnes of cloves (around 25% of the average crop), and almost all the cardamom crop.
- Volumes and values have shown strong overall growth over the last 6 years, but volume growth is dominated by cinnamon leaf oil, and the increase in total values has been concentrated over the last 2 years and is primarily linked to the increase in cinnamon leaf oil export volumes.
- Consistent moderate growth in the value of cardamom oil exports, but volumes have remained largely stable.
- Consistent increase in the volume and value or citronella oil exports – an increase in the harvested area has led to the doubling of export volumes from 15 to 30 tonnes over the last 6 years.
- For clove, pepper and nutmeg oils, the volumes are small and highly variable. With the destruction of nutmeg production in Grenada it is possible that there will be increased demand for product from Sri Lanka.

Table 3 Essential Oil Export Volumes, 2001 to 2006, tonnes

	2001	2002	2003	2004	2005	2006
Cinnamon leaf oil	125	149	151	142	188	205
Cinnamon bark oil	5.6	5.8	4.4	5.7	5.9	6.0
Clove oil	0.1	6.0	1.3	2.0	0.5	7.3
Pepper oil	0.8	2.6	1.7	1.4	1.5	1.1
Cardamom oil	0.9	0.5	0.5	0.9	0.8	1.1
Nutmeg oil	17.9	6.8	1.8	15.9	7.0	25.2
Citronella oil	15.3	18.6	20.5	23.1	23.2	29.3
TOTAL	165.6	189.3	181.2	191.0	226.9	275.0

Source: Department of Export Agriculture/Customs

Table 4 Essential Oil Export Values, 2001 to 2006, Rps millions[3]

	2001	2002	2003	2004	2005	2006
Cinnamon leaf oil	96	108	115	105	131	251
Cinnamon bark oil	143	150	109	140	133	125
Clove oil	0.7	14.7	4.6	12.7	3.7	18.4
Pepper oil	6.2	8.7	3.7	2.5	6.5	2.4
Cardamom oil	19	17	19	22	26	29
Nutmeg oil	32	23	8	23	30	44
Citronella oil	13	15	17	21	18	27
TOTAL	309.9	336.4	276.3	326.2	348.2	496.8

Source: Department of Export Agriculture/Customs

The 2 oils for which Sri Lanka is the dominant world source are cinnamon leaf oil, and cinnamon bark oil. Leaf oil has a high eugenol content – the ISO Standard for Sri Lankan leaf oil gives eugenol content expressed as total phenol content in the range 75-85%. Cinnamaldehyde levels are a maximum of 5%. Details for other origins are shown below, but in practice Sri Lanka is the only commercial source of any significant volume and regularity supplying to the trade. In the US, the eugenol content is expressed as solubility in potassium hydroxide – with levels in the range 80-88%.

[3] Typical exchange rate in 2006: US$1 = SL Rps 100

Table 5 Key Chemical Characteristics of Cinnamon Leaf Oil

	Seychelles	Sri Lanka	South India	Madagascar & Comores
Total Phenol content				
Minimum % (V/V)	85	75	80	70
Maximum % (V/V)	95	85	95	95
Total carbonyl expressed as cinnamaldehyde				
Maximum %	7	5	4	7

Source: AFNOR

Cinnamon leaf oil as a source of eugenol is in competition with clove leaf oil. However, where eugenol is required for further conversion into iso-eugenol that produced from cinnamon leaf oil possesses a more desirable aroma and flavour than when derived from clove leaf oil. However, for most other purposes, the cheaper eugenol ex-clove leaf oil is preferred.

Cinnamon bark oil contains high levels of cinnamaldehyde – typically in the range 55-78%.

Leaves for distillation of leaf oil are generally left to dry for a few days before distillation (and may be stored for some weeks/months in bales). In traditional distilleries, steam is generated in a separate wood fired steam boiler, and the condenser is a large fixed cold water pond with static water through which the piping from the still head is led. Improved stainless steel stills are available, but operational costs are higher.

Bark oil is produced from chips, featherings (inner bark from twigs and twisted shoots) and quillings (broken fragments of quills). Distillation is both by hydro-distillation (water and chips placed together in the still vessel and heated), and steam distillation.

Photo 1 **Pruning of cinnamon plantings; leaves drying prior to collection for distillation**

Photo 2 **traditional cinnamon leaf oil distilleries**

Photo 3 **Steam boiler (foreground), still vessel, and fixed pond condenser**

Photo 4 Quillings (on floor) for distillation for cinnamon bark oil (bundles of quills in background for export)

There is a growing oleoresin production sector in Sri Lanka. Data is not available on export volumes and values, but the full range of oleoresins of the spice crops cultivated are available, and companies can import feedstock for extraction if required. Sri Lankan pepper is particularly suited for extraction. The traditional local cultivars have high piperine content, and the common (and bad) practice of early harvesting results in significant production of light berries with increased piperine content. One of the spice extraction companies – EOAS, see below for contacts – is in the process of installing a small commercial CO_2 extraction facility, which will open up a new range of high quality niche extracts. Whilst the sector cannot compete directly with the Indian extraction industry as a source of bulk supplies of oleoresins, it is well placed to offer high quality oleoresins of pepper and the other spices that are cultivated locally.

A range of Institutions are active in the sector. Technical support to crop production is provided by the Department of Export Agriculture (DEA), and for distillation and extraction by the Industrial Technology Institute (ITI). The Export Development Board (EDB) provides support on marketing. Their business portal (www.srilankabusiness.com) provides direct access to exporters.

The key industry Associations involved in the sector are SAPPTA and the Spice Council. The Spice and Allied Products Producers and Traders Association (SAPPTA) is a long established industry body, formed in 1984 from the merger of the Cardamom Traders Association and the Sri Lankan Association of Producers and Exporters of Spices and Other Products. SAPPTA has strong industry representation from across all sections of the industry, with over 125 members comprising exporters, producers, brokers, dealers, processors and those offering services to the industry. Anyone wanting contacts in the Sri Lankan essential oil sector – whether for exporters, brokers, dealers, producers, processors or others – is recommended to first contact SAPPTA who are best placed to provide the contacts needed. A listing of some companies involved in the production and export of essential oils and oleoresins is given below, but no recommendation is given or implied in the inclusion or exclusion of any company in this listing.

The Spice Council is a relatively newly formed apex body that brings together industry, Government and institutions. The Council focuses primarily on the development of policy, and the promotion of research, and has a specific focus on the development of the cinnamon sector.

Spice and Allied Products Producers' and Traders' Association (SAPPTA)
c/o The Ceylon Chamber of Commerce
50, Navam Mawatha
Colombo 02
Sri Lanka
Tel: +94 (11) 242 1745 – 7 / 471 6673
Fax: +94 (11) 244 9352 / 243 7477
E-mail: sappta@chamber.lk
(Contact: Lasantha Wickremesooriya, Chairman)

The Spice Council
503, Sri Jayawardenapura Mawatha
Ethul Kotte
Kotte.
Sri Lanka.
Tel: +94 (11) 430 0619 / 430 0996
Fax: +94 (11) 286 2335
Email: info@srilankaspices.org
Web: www.srilankaspices.org
(Contact: D.A. Perera, Chairman)

Department of Export Agriculture
1095 Kandy Road
Peradeniya 20400
Sri Lanka
Tel: +94 (81) 2388 364
E-mail: direxag@sltnet.lk
(Contact: Dr M Illangasinghe, Director)

Industrial Technology Institute
363 Bauddhaloka Mawatha
Colombo 07
Sri Lanka
Tel: +94 (11) 2693 807
Fax: +94 (11) 2686 567
info@iti.lk
www.iti.lk
(Contact: Dr. A.M. Mubarak, Director)

Planters Association of Ceylon
Kavi Seneviratne, Chairman
Managing Director, Kelani Valley Plantations Ltd
No 400, Deans Road
Colombo 10.
Sri Lanka
Tel: +94 (11) 2694 217
Fax: +94 (11) 2694 216
Email: kavi@kvpl.com

Producers and Exporters of Oleoresins & Essential Oils:

EOAS International (Pvt) Ltd
34/3 Lumbini Avenue
Ratmalana
Sri Lanka
Tel: +94 (11) 272 2223
Tel 2: +94 (11) 272 2203 /272 4731
Mobile: +94 (777) 885 440
Fax: +94 (11) 273 2085
eoas@sltnet.lk
www.eoasorganics.com
Also: EOAS Organics (Pvt) Ltd
D.A. Perera, Managing Director

HDDES (Pvt) Ltd
309, Jayantha Weerasekara Mawatha
Colombo 10
Sri Lanka.
Tel: +94 (11) 2438 739
Fax: +94 (11) 2440 556
hddes@sltnet.lk
www.hddes.com
H. Gehan K. de Silva, Managing Director

Link Natural Products (Pvt) Ltd
CIC House
199 Kew Road
Colombo 02
Sri Lanka
Tel: +94 (11) 240 9294
Tel: +94 (11) 444 1300 ext 131
Mobile: +94 (773) 613 123
Fax: +94 (11) 240 9293
bizdev@linknaturalproducts.com
www.linknaturalproducts.com
Indika Weerasinghe, Business Development Executive

Producers, Brokers, Dealers and Exporters of Essential Oils

Rathna Producers & Exporters (Pvt) Ltd
Akuressa Road
Kamburupitiya 81100
Sri Lanka.
Tel: +94 (41) 22 92299
Fax: +94 (41) 22 92498
runage@sltnet.lk
www.rathna.150m.com
Piyatissa Runage, Managing Director

Saboor Chatoor & Co Ltd
Spice House
20, Sri Wickrema Mawatha
Colombo 15
Sri Lanka
Tel: +94 11 252 1025 (4 lines)
Mobile: +94 (777) 340 834
Fax: +94 (11) 250 2768
mail@saboorchatoor.com
http://www.saboorchatoor.com
G.S. Chatoor, Executive Chairman

Meezan & Co (Pvt) Ltd
PO Box 1027
366/10 Avissawella Road
Wellampitiya
Sri Lanka
Tel: +94 (11) 441 2650 to 2652
Mobile:+94 (777) 680 150
Fax: +94 (11) 253 2068
sacader@meezantea.com
http://www.meezantea.com
Abdul Cader (Thameem), Director

Forbes & Walker Commodity Brokers (Pvt) Ltd
Forbes & Walker Group
46/38 Nawam Mawatha
Colombo 2
Sri Lanka
Tel: +94 (11) 2327 961 /4767 222 ext251
Tel 2: +94 (11) 2430 427 direct
Mobile: +94 (777) 312 852
Fax: +94 (11) 2437 147
damithap@forbestea.com
Damitha Perera, Director

Basheer & Co.
Dealers,
169 Dam Street
Colombo 12
Sri Lanka
Tel: +94 (11) 2422 516
Fax: +94 (11) 334 642
Mobile: +94 (11) 777 314780
Email: basheer@dialogsl.net
M. Basheer Ahamed,

CPS
Dealers,
16 Old Moor Street
Colombo 12
Sri Lanka
Tel: +94 (11) 2330 206 / 4917 723
Fax: +94 (11) 2330 206
M.M.M. Iqbal

East West Commodity Brokers
Colombo
Sri Lanka
Tel: +94 777 700999
Chandana de Silva

Suppliers of equipment in Africa

The distillation and extraction industry in Africa is relatively small and localised outside of the North African centers of Egypt and Morocco, and Southern Africa (South Africa, Swaziland). New entrants to the industry can find it hard to identify suppliers of equipment (stills, condensers, extractor vessels etc) in stainless steel, steam boilers, and other necessary materials (drums, jugs, filter papers etc).

The development of the industry in Africa would benefit greatly if there was greater sharing of information on the location of suppliers. New entrants would find it easier to identify necessary suppliers, and the concentration of orders on particular suppliers would encourage the development of skills and expertise – this is particularly necessary in the areas of fabrication of stainless steel vessels and condensers.

Some contacts of companies involved in the manufacture of distillation/extraction equipment or the capability to do so (primarily the capability to work with stainless steel) or supply of materials based in East Africa are given below.

The Newsletter would welcome information from Readers on other suppliers of relevant equipment and materials from all regions of Africa, so that the listing can be expanded. Please send any information to mns@intracen.org.

The contacts are provided as a service only.

NO RECOMMENDATION IS IMPLIED.

1. Manufacture of stainless steel distillation equipment:

ASL – Heavy Fabrication Division
Mombassa Road
PO Box 18639-00500
Nairobi. Kenya
Tel: +254 20 821567/820296/820394
Fax: +254 20 820169/651893
murali@asl.ramco-group.com
Attn: Mr Ve Balamurali, General Manager

Warren Enterprises Ltd
PO Box 8251
Nairobi. Kenya
Tel: +254 20 8561 932/3/4
Fax: +254 20 8561 013
Attn: Mr S Ramaswamy, Managing Director

Morris Steel & Company
Mogadishu Road
PO Box 18310
Nairobi. Kenya
Tel: +254 20 533 627
Attn: General Manager

Societe Aris Trading
Lot VB 81X Ambatoroka
101-Antananarivo. Madagascar
Tel: +261 20 24 264 96
Fax: +261 20 22 290 24
aristrading@freenet.mg
Attn: Mr James Davidson

ATICOM
Lot IT 91A Itaosy
102 Antananarivo – Atsimondrano.
Madagascar
Tel: +261 32 07 744 34
morasatajosoa@yahoo.fr
Attn: Josoa Andriamorasata

EDESA
PO Box 123
Riebeek Kasteel 7306
Western Cape. South Africa
Tel: +27 (82) 334 3324
info@edesa.co.za
Attn: Werner Bester

2. Suppliers of steam boilers

ARTICOM
Lot IT 91A Itaosy
102 Antananarivo – Atsimondrano. Madagascar
Tel: +261 32 07 744 34
morasatajosoa@yahoo.fr
Attn: Josoa Andriamorasata

ARTICOM make a simple, low pressure, wood fired steam boiler.

3. Suppliers of materials

(a) Essential oil drums:
Greif supply a range of steel and coated drums, and are present in 45 countries around the world.

Greif Kenya Ltd
Box9036 - Unga Street
Shimanzi – Mombasa. Kenya
Tel: +254 41 2495591
Fax: +254 41 2494038
pascal.wanyonyi@greif.co.ke
Attn: Pascal Wanyonyi

Greif Nigeria Ltd
Apapa, Nigeria
Phone +234 (01) 587 0866
Fax +234 (01) 587 3084
vanleer@linkserve.com.ng
Attn: Olukunle Obadina,

Greif South Africa Ltd
Vanderbijlpark, South Africa
Phone +27 (0) 16 930 1100
Fax +27 (0) 16 930 1106
robert.zimmerman@greif.com
Attn: Rob Zimmerman
Website: www.greif.co.za

Greif Mozambique
Maputo. Mozambique
Phone +258 21 720153
Fax +258 21 720724
vanleer@vironn.com

Greif Egypt
Cairo, Egypt
Phone +20 2588 1110
Fax +20 2593 3889
E-mail: koracons@link.com.eg
Attn: Ayman Korra

Greif Algeria
Arzew, Algeria
Phone + 213 41473723 / + 213 41473724
Fax + 213 41473730
Mohamed.Gherbi@Greif.com
Attn: Mohamed Gherbi

Price Information

EU Markets

PLEASE REMEMBER THAT THESE ARE ONLY RICE INDICATIONS.

Price indications collected from the markets within the EU are given for a range of essential oils, below. The oils are grouped *for convenience only* into Spice Oils, Seed Oils, Citrus Oils, Herb Oils and Perfumery Oils. Prices are wholesale for quantities of 25kg or more unless otherwise stated.

Spice Oils

Product	Origin/Grade	Prices per kg
Clove bud	Indonesian	€17-20/kg, 1-5 ton lots
Clove stem	Indonesian	€8-10/kg, 2-5 ton lots
Clove leaf	Indonesian	€5-6/kg, 2-5 ton lots
	Indonesian	€4/kg container cif
	Madagascar	€5/kg spot
Cinnamon bark	Sri Lankan 60/65%	€200-230/kg
Cinnamon leaf	Sri Lankan light	€13-16/kg
Cassia bark	China	€12/kg forward
Black pepper	Sri Lankan	€50-60/kg
	Indian	€30-35/kg
Nutmeg	Indonesian	€33-35/kg spot
	Sri Lanka	€35-40/kg
Ginger	Chinese	€28-30/kg ton lots
	Indian	€70/kg
	Sri Lankan	€130-140/kg
	Indonesia (from fresh ginger)	€90/kg
Pimento leaf	Jamaican	€80-90/kg ton lots
Pimento berry	Jamaican	€145-160/kg
Cardamom	Guatemala	€150-160/kg

Spice Seed Oils

Product	Origin/Grade	Prices per kg
Star Anise	Chinese	€6-8/kg
Coriander seed	Russian	€55-60/kg
Cumin seed	Iran & Egypt	€45-50/kg

Citrus Oils

Product	Origin/Grade	Prices per kg
Orange (sweet)	Brazilian pera	€2-3/kg, US: €5-7/kg
Orange (bitter)	Italian	€45-50/kg
Bergamot oil		€70-90/kg
Lemon	Argentine	€20-25/kg
Lime (distilled)	Mexican	€20-25/kg

Herb Oils

Product	Origin/Grade	Prices per kg
Basil	Indian, ex-chavicol	€5-7/kg
Lavender	Bulgarian	€35-45/kg
	French	€50-55/kg
Lavendin	French Grosso	€17-22/kg
Spike Lavender		€25-30/kg
Mints	Indian piperita	€30-35/kg
		€15/kg container
	Indian dementholised peppermint oil	€7/kg
	Chinese Spearmint 55%	€15-20/kg
	Indian Spearmint, 58-60% L-carvone	€18-20/kg
	Indian Arvensis, 72% menthol	€9-10/kg
Menthol	Chinese	€13/kg
	Indian, bold crystals	€11-12/kg
Chamomile (German)	Egypt	€550-600/kg

Perfumery Oils

Product	Origin/Grade	Prices per kg
Eucalyptus globulus & other high cineole types	China	€4-5/kg
	Australian	€8-10/kg
Eucalyptus citriadora	Brazilian	€7-9/kg
Litsea cubeba	China	€12-14/kg
Ylang ylang	Comores: Extra	€155/kg
	Comores: Troisième	€70-80/kg
Ylang (cananga)	Indonesia	€80/kg, min 100 kgs, air
Patchouli	Indonesia	€70-80/kg cif; €100 spot
Geranium	China	€60-70/kg drum
	Egypt	€50-60/kg drum
Sandalwood	Indonesian	€1,000-1,300/kg, min 50kgs, air
	New Caledonia	€800-1,000/kg
Citronella	Chinese	€6-8/kg
	Indonesian	€6-8/kg
	Sri Lanka (Ceylon type)	€15-16/kg drum
Lemongrass	Indian	€10-12/kg
Palmarosa	Indian	€18-25/kg
Vetiver	Indonesian	€45-60/kg
	China	€50/kg CIF
Tea Tree	Australia	€23-25/kg

Price Information

US Markets

Price indications collected from the markets within the US are given for a range of essential oils, below. Prices are FOB from country of origin, and quoted in US Dollars, unless otherwise indicated, and if there are volume indications they are quoted in parentheses. These price quotes were taken mostly from medium-small sized importers, or small producers. As this news service develops, a broader sampling for pricing will be conducted, as well as for a larger number of products.

Oleoresins

Spice	Variety	Prices /kg
Gurjun balsam	Indonesian	$ 9 (farmgate)

Essential oils

Spice oils

Spice	Variety	Prices /kg
Nutmeg	Indonesian	$ 41 (farmgate)
Cinnamon	Indonesian	$ 121 (farmgate)
Clove stem	Indonesian	$ 8 (farmgate)
Clove leaf	Indonesian (min 82% eugenol)	$ 6.75 cfc Portland, Oregon
Clove leaf	Madagascar (min 82% eugenol)	$ 6.20 cnf Miami
Cinnamon Bark	Madagascar	$ 165 (10 kg and more)
Cinnamon Bark	Madagascar	$ 160 (50 kg and more)
Ginger, cochin	India	$ 95
Ginger	Indonesian	$ 115 (farmgate)
Ginger, fresh	Madagascar	$ 240 (10 kg and more)
Ginger, fresh	Madagascar	$ 229 (50 kg and more)
Cardamom	Guatemalan	$ 200 CFR AIR
Cardamom	India	$ 215

Spices Seed Oils

Spice	Variety	Prices /kg
Cubeb	Indonesian	$ 61 (farmgate)
Black Pepper	India	$ 60-65
Coriander	Russian	$ 100 CFR

Herb oils

Spice	Variety	Prices per kg
Citronella	Indonesian	$ 11 (farmgate)
Mint (terpeneless)	India	$ 10-11

Basil	Vietnam	$ 24 CFR
Thyme, wild	Eastern European	$ 94 CFR
Sage officinalis	Eastern European 30%	$ 60 CFR
Lavender	Bulgarian	$ 78 CFR
Lavender	Russian	$ 52 CFR
Lavender	Dalmatian	$ 43 CFR

Citrus Oils

Spice	Variety	Prices per kg
Lemon	Argentina	$ 24 CFR

Perfumery Oils

Spice	Variety	Prices /kg
Celery	India	$ 80
Ylang Ylang	Indonesian	$ 137 (farmgate)
Ylang complete	Madagascar	$ 160 (less than 10 kgs)
Ylang complete	Madagascar	$ 155 (10-50 kgs)
Lemongrass	India	$ 14
Palmarosa	India	$ 25 (for 6 drum lots)
Davana	India	$ 800
Geranium	Madagascar	$ 229 (less than 10 kgs)
Geranium	Chinese	$ 90 CIF
Katrafay	Madagascar	$ 125 (less than 10 kgs)
Katrafay	Madagascar	$ 115 (10-50 kgs)
Vetiver	Indonesian	$ 85-95 CFR (depending on quality)
Patchouli	Indonesian	$ 129 (farmgate)
Ravensara aromatica	Madagascar	$ 85 (less than 10 kgs)
Ravensara aromatica	Madagascar	$ 80 (10-50 kgs)
Eucalyptus citriodora	Madagascar	$ 43 (less than 10 kgs)
Eucalyptus citriodora	Madagascar	$ 37 (10-50 kgs)
Iary (Psiadia altissima)	Madagascar	$ 78 (less than 10 kgs)
Iary (Psiadia altissima)	Madagascar	$ 65 (10-50 kgs)
Issa (Rhus taratana)	Madgascar	$ 100 (less than 10 kgs)
Issa (Rhus taratana)	Madagascar	$ 88 (10-50 kgs)
Niaouli var. viridiflora	Madagascar	$ 35 (less than 10 kgs)
Niaouli var. viridiflora	Madagascar	$ 30 (10-50 kgs)
Niaouli var. viridiflora	Madagascar	$ 25 (100 kg and up)
Ravintsara (Cinnamomum camphora)	Madagascar	$135 (less than 10 kgs)
Ravintsara (Cinnamomum camphora)	Madagascar	$128 (10-50 kgs)
Saro (Cinnamosma fragrans)	Madagascar	$ 84 (less than 10 kgs)
Saro (Cinnamosma fragrans)	Madagascar	$ 79 (10-50 kgs)
Saro (Cinnamosma fragrans)	Madagascar	$ 70 (100 kg and up)
Helichrysum gymnocephallum	Madagascar	$ 85 (less than 10 kgs)
Helichrysum gymnocephallum	Madagascar	$ 80 (10-50 kgs)

New study reveals that life sciences is the biggest employer in the North West

A new report showing the North West of England's top 10 employment growth sectors has named the life sciences as the region's biggest jobs provider.

The Manchester Metropolitan University (MMU) study, called The Changing Professions in the North West of England, reveals the life sciences industries employed 455,600 staff last year accounting for 13.4% of jobs in the region.

The report also details how MMU is helping the industry meet the challenges of this growth and making a direct contribution to the regional economy through its life sciences provision. 74% of the 5,000 science and engineering students trained by MMU every year stay to work and live in the North West. Alongside these students entering the workforce, 80% of the MMU's trained health professionals, including nurses, health visitors and dental technicians, go on to enter this sector at all levels – in hospitals and community health – in the region.

Case studies in the report's life sciences chapter of include cutting-edge technology firm Micap has enlisting MMU's knowledge of essential oils to tackle deadly hospital infections such as MRSA. The superbug is known for its resistance to traditional antibiotics so University microbiologists have teamed up with the Wigan-based firm to explore another way to kill the deadly organisms – by harnessing the natural antibacterial properties of plant-derived essential oils and incorporating them into healthcare products.

Dr Valerie Edwards-Jones, a reader in medical microbiology in MMU's Research Institute for Health and Social Change, is working with Micap to build these oils into devices such as urinary catheters, wound dressings and creams. The partners have discovered that encapsulating the volatile oil particles in dead yeast cells – creating a shell – controls the speed of their release, which makes them safer to use. “During clinical tests, we have shown that these oils can defeat MRSA. A trial using essential oil-infused creams reduced the colonization of bacteria on patients’ skin, a major source of infection, by ten-thousand fold,” Dr Edwards-Jones said.

However, despite this, with only a 13.2% share of top 10 sector growth in the past ten years, life sciences has now fallen behind financial and professional services and Education as the third fastest growing.

The full report can be accessed by clicking on Changing Professions in the North West at http://www.mmu.ac.uk/news/publications/.

Source: http://www.innovations-report.de/html/berichte/studien/bericht-104539.html

INDISPENSABLE TIMBER BASED OILS

Plant based oils are indispensable in the human food as also in several industrial uses. Vegetable oils in India were traditionally used for illuminating lamps even before the arrival of kerosene. These oils and their by-products are increasingly being used in modern industries for various purposes like cosmetics, varnishes, paints, lubricants, resins, adhesives, dyes & inks, explosives, cell phones, pesticides, pharmaceuticals, bio-diesels etc. More than 100 species of plants occurring in wild or cultivated in India have been identified to bear seeds possessing fixed oils in commercially extractable proportions.

Certain essential plant oils, widely used as fragrances and flavors in the perfume and food industries, have long been reputed to repel insects. Recent investigations in several countries confirm that some plant essential oils not only repel insects, but have contact and fumigants insecticidal actions against specific pests, and aimed at the development of reduced-risk pesticides based on plant essential oils, toxic and sublethal effects of some essential oil terpenes and phenols have been investigated using the tobacco cutworm (Spodoptera litura) and the green peach aphid (Myzus persicae) as model pest species.

They have medicinal properties as well.The antimicrobial properties of 21 plant essential oils and two essences were investigated against five important food-borne pathogens, Camphylobacter Jejuni, Selamonella enteritidis, Escherichia coil, Staphylococcus aureus and Listeria monocytogenes. The oils of bay, cinnamon, clove and thyme were the most inhibitor, each having a bacteristatic concentration of 0.75% or less against all five pathogens. In general, Gram-positive bacteria were more sensitive to inhibition by plant essential oils than the Gram-negative bacteria. Campylobacter jejuni was most resistant of the bacteria investigated to plant essential oils, with only the oils of bay and thyme having a bactericidal concentration of less than 1%. At 35'C, L. monocytogenes was extremely senstiv to the oil of nutmug. A concentration of less than 0.01% was bacteriostatic and 0.05% was bacteriocidal, but when the temperature was reduced to 4'C, the bacteriostatic concentration was increased to 0.5% and the bacteriocidal concentration to grater than 1%.

These days, people have a notion that low-fat, high carbohydrate diets are essential for health has grown into an obsession. It is driven largely by an effort to reduce heart dieses and, more recently, certain types of cancer. We know that saturated fatty acids are more closely associated with risk factors for heart disease than are unsaturated fatty acids. Many people believe that plant-based diets are healthy because they are low in fat. However, plant-based diets are not necessarily low fat. In true plant-based diets, unsaturated fatty acids predominate. Plant-based diets include foods that contain fats, such as nuts and such as nuts and seeds and oils from grains and seeds. The fats in these foods are not associated with increased risk for heart disease. In addition, for people with insulin resistance, higher fat diets products against the heart disease risk factors of low HDL- cholesterol concentration, hypertriglyceridemia, hypergly-cemia, and hyperinsulinemia.

Here are few plants with their qualities and usages in various fields.

List of important tree borne oilseeds (TBOS)

S.NO	Botanical name	Common name	Distribution	Oil (%)	Uses
1	Actinodaphne hookeri	Pisa	Evergreen forests of E. & W. Ghats,	7	Soaps, Industrial chemicals (for textiles,
			Orissa, Karnataka		Pharmaceuticals and perfumery
2	Aisandra butyracea	Phulwara	Sub-Himalyan tract and outer Himalayas		
			from Kumaon to Sikkim	42-47	Cocoa butter substitute, vanaspati
3	Aleurites fordii	Tung oil	Assam, Bengal, Bihar, Karnataka	50-60	Medicinal industrial soaps, illuminations,
					Medicinal
4	Azadirachta indica	Neem	Throughout India, more in dry forests of	35-40	Medicinal
			AP, TN and Karnataka		
5	Bobax ceiba	Silk cotton	Throughout India	20	Illumination
6	Calophyllum inophyllum	Undi	Along sea coast	50-73	Illumination, soaps
7	Ceiba pentandra	Safed semul/while	Throughout the hotter parts of India	28	Illumination soaps, edible grade oils
		Silk cotton			
8	Cittrullus colocynthis	Tumba	Arid and semi-arid regions of Haryana,	21	Soap
			Gujrat and rajasthan		
9	Garcnia indica	Kokum	Forests of W.ghats in S. Mah and	33-44	Coca butter substitute, soaps, candles
			Slopes of Nilgiri hills		
10	Holarrhena antidysentrica	Kurchi	Throughout India	19-30	Medicinal
11	Holarrhena Kurzii	Chaulmoogra	Evergreen forests of upper Assam and	33-55	Medicinal Soaps
			Tripura		
12	Hydnocarpus wightiana	Maroti	Forests of W.ghats	63	Medicinal (for leprosy)
13	Jatropha curcas	Ratanjyot	Throughout India (dry tropical areas)	30-40	Industrial, medicinal, soaps
14	Juglans regia	Wild walnut	kashmir, Hills of H.P. (dry tropical areas)	60-70	Edible, printing inks, oil colours,
					varnishes, soaps
15	Litsea cubeba	Siltimur	E. Himalayas, Assam, manipur	22	Illimination
16	Litsea glutinosa	Garbijaur	Punjab, H.P.,	35-48	Candles, soaps

			Assam, Bengal, S.India		
17	Litsea	Monopetala	Meda E.,N. and Central India	21	Candies medicinal
			(upto 1200m)		
18	Madhuca indica	Mahua	Central India, Plains of N.India	35	Cocoa butter substitute, vanaspati
19	Madhuca longifolia	India Mahua	Monsoon forests of W. ghats, Deccan	35	Soaps illumination
			and other patrs of S. India		
20	Mallotus phillippinensis	Kamala	Himalayan foothills, Maharashtra, Bengal	35	Paints, varnish
			Orissa, M.P.		
21	Mangifera indica	Mango	Throughout India (tropical regions)	11	Cocoa butter substitute, vanaspati
22	Melia azedarach	Persian lilac	Sub-Himalyan tract and (upto 1800m)		Soaps, lubricants, illumination, medicinal
23	Mesua ferrea	Nahor	Forests of N.E. India, Karnataka, Kerala	45	Soaps, lubricants, illumination, medicinal
24	Mechelia champaca	Chapa	Assam, Bengal, W. ghats	32	Medicinal
25	Mimusops elengi	Maulsari	Central and S. India	16-25	Edible, Illiumination
26	Moringa oleifera	Sainjna	Indigenous to NW India, cultivated throughout India	21-24	Edible,illumination, lubricant, cosmetics,
					Medicinal
27	Myrica nagi	Kaiphal	Sub tropical Himalayas upto 2100m	20-25	Candles, soaps
28	Myristica malabarica	False Nutmeg	W. ghats (konkan southwards)	40	Illumination soaps, medicinal
29	Olea ferrunginea	Indian Olive	Himalayas (upti 2400m)	15	Soaps, medicinal
30	Perilla frutescens	Bhanijira	Himalayas (upto 3500m), Assam, Bihar	45	Paints, varnishes, Printing inks enamels
31	Pongamia pinnata	Karanja	Throughout India (upto 1200m)	27-39	Soaps, Lubricants, illumination, industrial
32	Prinsepia utilis	Bhikal	Uttar Pradesh	37	Edible, Illiumination soaps, medicinal
33	Prunus armeniaca	Common apricot	Sub-temperate rregion of J&K,HP and UP	45-50	Medicinal cosmatics, confectionary
			(1200 to 2500m)		
34	Prunus persica	Peach	Kashmir,HP, sub-montane tracts of	32-45	Edible, pharmaceuticals, Cosmetics,
			Punjab, UP		Illumination
35	Rhus succedanea	Wax tree	Kashmir to Asam (upto 2500m)	20-30	Polish, candles
36	Salvadora	Pilu	Arid regions of	33	Soap, candles

	oleoides		Punjab and W. India		
37	Sapium sebiferum	Chinese tallow	N.W. India	53-64	Soaps, candles paints, varnishes, plastics
38	Schleichera	Kusum	Forests of sub-Himalayan tracts in N&E	34	Oleosa soap, medicinal, illumination,
			Parts of India		Lubricants
39	Shorea robusta	Saf	Cent. Himalayas and foothills of Himalayas	13	Cocoa butter substitute, vanaspati
			in sub temperate regions		
40	Simamondisa chinensis	Jojoba	Gujrat, Haryana and Rajasthan	50	lubricants, adhensives, pharmaceuticals
41	Vateria indica	Dhupa	Forests of Western ghats	20-22	Confectionary, soaps, candles, medicinal
42	Salicornia brachiata*	Salt marshes	In TN, WB	20	Edible

Source: http://pib.nic.in/release/release.asp?relid=35576

Nigeria: RMRDC to Upgrade Indigenous Technology

The Raw Material and Research Development Council (RMRDC) has embarked on upgrading of indigenous technology and capacity building.

Speaking recently to journalists in Abuja, the director general of RMRDC, Professor Peter Onwualu, said the upgrading will mostly be on proper documentation of design parameters for process equipment and plants formulation for industrial use.

He said some of the indigenous technology that would be upgraded would include the first two indigenously designed and fabricated essential oil extraction plants which already, the pilot scale plants have been designed to extract essential oil from locally available plants including lemon grass, citronella and eucalyptus.

He maintained that the upgrading was most important in order to achieve the technological development of the country.

Prof. Onwualu continued by saying that top priority was placed on capacity building for local design and fabrication of process equipments for the conversion of the nations local resources.
He furthermore made it known that the essential oil extraction plant was fabricated by RMRDC in conjunction with the National Research Institute for Chemical Technology (NARICT) and the Federal Polythenic, Nasarawa State.

Source: http://allafrica.com/stories/200802210218.html

Some cosmetics make you feel as good about the planet as they do about how you look

Spurred on by the ecological odd couple of Mother Nature and Al Gore, and the collected works of John Muir, Rachel Carson and Barbara Kingsolver, this nation is finally going green.

And the trend is moving from the gas tank and the grocery store into make-up bags, medicine cabinets and bathroom vanities.

For cosmetics users, it couldn't be soon enough.

From the 1700s until the early 20th century, unwitting women slathered themselves with make-up that, in some cases, included lead, mercury, and carbolic acid. An eyelash dye called Lash Lure occasionally blinded users, while Laird's Bloom of Youth, a skin lotion, caused fatigue, nausea and paralysis.

Today the number of cosmetics-connected horror stories seems fewer, but rumors of lead-tainted lipsticks and mercury-tinged mascaras persistently flood the pages of women's magazines and the Internet.

Meanwhile, eco-friendly cosmetics brands are upping the ante by using recyclable packaging and donating sales percentages to charity.

According to IBISWorld's December 2007 analysis of the beauty industry, sales of natural/organic skincare, hair care and cosmetics items reached the $6 billion mark in 2006.

Locally, the idea is slowly taking hold.

"If you don't want to put it in your body, then don't put it on your body," says Juana McCoy, owner of the East Memphis beauty boutique Zoe, in her summation of the green philosophy.

"We all know that the industry uses some ingredients they shouldn't, and I've been concerned," she continues. "I thought it's time I offer the best alternative I could find."

After spending several months experimenting with their products, McCoy placed her first order with Jurlique, an Australian-based natural beauty company that's currently on the shelves of such high-end retailers as Bergdorf Goodman and Barneys New York.

Jurlique arrived on Zoe's shelves in late January.

"It's a totally green line," McCoy says of the brand's offerings, which range from $21 Rosewater Balancing Mist to $134 Herbal Recovery Gel. "The company's owners have 150 acres of land where they grow and process every flower, every herb, every bark, every root, every everything that goes into their products."

Jurlique's founders, Jurgen and Ulrike Klein, are no ordinary couple: One is a chemist by trade, the other, a horticulturist. They grow 50 varieties of plants and flowers, including calendula, lavender; elder and rose, employing sustainable, biodynamic farming methods and a complex "biointrinsic extraction" process that converts essential ingredients into luxurious scrubs, lotions, shampoos, and oils. They strive to use emulsifiers, preservatives and binding agents that are plant-derived -- even Jurlique's packaging is created from recycled cardboard.

At Macy's Oak Court, a Lush cosmetic takes the fresh-and-healthy concept a step further.

At first glance, the Lush boutique, which is located just inside the department store's Perkins Road entrance, looks a little Willie Wonka-ish.

Oversized cakes of soap packed with adzuki beans, flower petals and citrus rinds, sit on pedestals. Solid shampoo blocks, in vivid hues bearing names like Trichomania and Seanik, await a salesperson's cleaver. Bio-fresh face masques made with blueberries, avocado, yogurt and eggs vie for attention, along with gumball-sized bath bombs that are packed with confetti, sea salt, cypress oil and leaves.

"Lush is really about producing products that are ethically sound, with the least impact on the environment. Freshness is intrinsic to the brand," says Brandi Halls, the British-based company's North American spokesperson.

Halls explains that Lush doesn't use a warehouse for its U.S. inventory -- products are manufactured per order in Canada, shipped directly to stores, and, like a delicatessen, cut and packaged as they're sold.

"Tons of our products are naked in the stores, and the majority of them come in a solid form, which can be a little strange for first-time users," she admits. "We slice according to price, and sell reusable aluminium tins (for product storage), although some people use a Ziploc bag or a soap dish."

At the Memphis location's grand opening, consumers were quickly catching on. With

good reason -- many, but not all, of the ingredients in Lush's products are organic and/or vegan. Few contain preservatives. The proceeds (100 percent, minus taxes) from sales of Charity Pot body lotion, which retails for $19.95, go to worthwhile organizations, including UNICEF and the International Fund for Animal Welfare. And on Lush's Web site, lush.com, natural and organic ingredients are listed in green text and synthetic ingredients in black, with plenty of informed reviews from regular users.

Eco-friendly cosmetics are big business at Sephora's dual Memphis outposts, located at Collierville's Carriage Crossing and Wolfchase Galleria. Natural and organic products get their own category listing on the company's Web page, sephora.com, and, says Kelli Camurati, Carriage Crossing's Sephora store director, they'll soon get their own section on the retail floor.

"I think people are really starting to get it," Camurati says. "The more people who see what natural cosmetics can do, the more they want it on their skin."

Gliding through the crowded store, which resembles a candy emporium for cosmetic junkies, she points out some green-themed top sellers.

Camurati picks up a bottle of Lavanila perfume, which lists what's not inside: No petrochemicals, phthalates, propylene glycol, mineral oils, silicone, synthetic dyes, sulfates or parabens. Instead, co-founders Danielle Raynor and Laura DiGirolamo use essential oils and antioxidants in their formula for the all-natural fragrance line.

L'Occitane's Very Precious moisturizing products, which boast cell-regenerating properties courtesy of the immortelle flower, are popular with women who have aging skin. So are Caudalie, a French brand that uses "vinotherapy" (grape seed polyphenols), and Decleor, which goes the holistic aromatherapy route to heal problem skin.

Cargo's Plant Love make-up is wildly successful with the younger set. Their $20 "lipstick for a greener tomorrow," designed by celebrities, such as Lindsay Lohan and Mariska Hargitay, is manufactured with meadowfoam seed oil, jojoba and shea butter, not petroleum. The tube is shielded by a compostable bio-plastic case made from corn, and its outer cardboard packaging is studded with wildflower seeds. Even better, 10 percent of every sale goes to Memphis' own St. Jude Children's Research Hospital.

With every purchase of Smashbox's Green Room brand, which includes eye shadows, bronzers, lipsticks and glosses and consists of environmentally friendly formulas that are packaged in biodegradable or recyclable packaging, Trees for the Future plants a Moringa tree in a developing country.

East Memphis dermatologist Dr. Alan Tanenbaum is cautiously optimistic about what he describes as "an industry-wide marketing mandate to go green."

"Socially," he says, "green cosmetics are a good idea. But when a company makes the all-natural claim, there's no government agency to say that disclaimers are false, because the beauty industry is self-regulating."

Are green cosmetics actually healthier than their synthetic counterparts?

"For the most part," Tanenbaum says, "what's going into today's cosmetics is very similar to the past. Companies are linking the raw materials to the plant derivative. The labeling is different, but the actual ingredients are the same, or very similar. Previously, a product might have 'ascorbic acid' listed; now it will say 'grapefruit rind.' "

When buying products from any cosmetic line, green or not, Tanenbaum warns, you're also purchasing the hype.

"You have to have realistic expectations," he says. "The skin is an organ that's made to take care of itself."

'Natural' and 'organic' are key to go-green products

Dr. John Bailey, chief scientist at the Washington-based Personal Care Products Council, a national trade association for the cosmetics and personal care products industry, offers the following tips for consumers who are making the switch to green cosmetics:
Natural products use some or all ingredients that are obtained from nature (usually botanical sources, but sometimes mineral).

There is an effort to avoid the use of ingredients that are artificial or chemically manufactured.

Organic products take natural a step further by avoiding the use of things like chemical fertilizers or pesticides. The term "organic" implies additional steps to demonstrate the absence of specified substances, via a variety of private and government-certified programs.

Natural and organic products are both a trend and an evolution. Natural and organic ingredients have to go through the same safety substantiation process as all synthetic ingredients.
The Personal Care Products council publishes guidelines to help manufacturers in this process.
There are considerable consumer resources available so you can easily do your own research to learn more about green products.

Some Web sites: safecosmetics.org, cosmeticsinfo.org and personalcarecouncil.org.
Additionally, cosmetics manufacturers provide detailed information about their ingredients both within their product packaging and online.

Source: http://www.commercialappeal.com/news/2008/feb/18/clean-green-s/

Essential Oils And Fatty Acids In Food

Essential Oils in Food

In the animal body, fats may be manufactured out of sugars and proteins.

Fats are produced in the plant out of sugar.
Chief among the hydrocarbon foods are:
Fruits--olives, avocados.
Nuts--almost all varieties.
Legumes--peanuts, soybeans.
Dairy products--cream, butter and some cheese.

Flesh of dead animals, especially pork and mutton and beef that has been fattened. Fat fish--herring, shad, salmon, trout.

Fats and Oils

There are many kinds of fats--solid and liquid. Fats and oils are formed in plants, and fruits when ripening. A decrease in sugars accompanies the increase in fats. It is but another evidence of the importance of sugar in the life of the plant and, thereafter, in the life of 50 the animal. While the animal is capable of synthesizing fats out of starches and sugars, it is not capable of taking hydrogen, oxygen and carbon and synthesizing fats out of these.

The fat of the animal differs from the oil of the plant; just as do the proteins of the animal differ from those of its food supply. Each animal builds its own characteristic fats out of its foods. Fats and oils are complex substances that are made up of simpler substances, which we may call the "building stones" of fat. True fats are composed of fatty acids and glycerol--or glycerides. Fats differ according to the fatty acids and glycerides which they contain.

Stearic, palmitic butyric and oleac acids are the most common glycerides found in edible fats. The stearates are combinaitons of stearic acid with glycerol--stearin. Several fatty acids are present in all fats. In butter there are palmitic, oleic, myristic and butyric acids.

Stearic acid is present in suet (hog fat), palmitic acid is abundant in vegetable and animal fats. Oleic acid is found in most fats and oils.

Such vegetable oils as olive, cottonseed, peanut, almond and cocoanut oils contain large amounts of olein. Fats are split up during the process of digestion into fatty acids and glycerol. Fats and oils, like proteins and carbohydrates, are not usable as such, but must be broken down into their constituent "building stones" and these "building stones"--fatty acids and glycerol--are used with which to build human fats.

Source: http://www.tamilstar.com/news/health/article_5140.shtml

Robertet invests in French plant aroma business

Global flavors and fragrance group Robertet has taken an equity stake in Plantes Aromatiques du Diois, a move that taps into ethically sourced and fair trade aroma supplies.

Based in Grasse, in the south of France, Plantes Aromatiques du Diois has built its specialization around the supply of organic essential oils and aromatic plants, sourcing ingredients worldwide with a focus on sustainable development and fair trade channels.

The company was set up in 1999 by Michael Menevrier in conjunction with a co-operative for aromatic plant producers to commercialize essential oil and plant products in the famed Provence region.

Global expansion to meet ethical needs

However, the company has since evolved into a global entity in the market for essential oils and fragrance plants, as it has strived to expand its supply and increase the amount of sustainable and fair trade supplies to meet consumer demand.

The global network has been developed through a series of producing partners who supply organically certified essential oils and plants from 27 countries, including India, North Africa and Madagascar.

Indeed Menevrier is a member of the Bio-Equitable Association, and has been working to develop fair trade development projects in a number of the local communities where the plant aromas and essential oils are produced.

Organic and fair - trade all the rage

Organic and fair-trade ingredients are becoming increasingly sought after for personal care products as part of the evolving health and wellness trend.

This means that not only are consumers looking for the purest and most natural products, but they are also looking for products that are ethically or sustainably produced.

Robertet, which is based in Grasse, France, and has significant operations in New Jersey, US, works in partnership with leading fragrance and personal care providers worldwide to develop and supply custom-made aromas.

The company has been increasing its footprint in the area of organic and fair-trade aromas, in line with consumer demand, and says that its investment in Plantes Aromatiques du Diois will help it to take this aim to the next level.

Source: http://www.cosmeticsdesign.com/news/ng.asp?n=83280-robertet-plantes-aromatiques-du-diois-aromas-essential-oil-fair-trade

Flower oils plan aims to bring new life to old farm

FIELDS of lavender and wildflower meadows could become a familiar sight in St Helens with the launch of the UK's first essential oils farm.

A tiny derelict farm close to Rainford could soon be transformed into a processing and education centre set amid 500 acres of colourful fields.

St Helens Council have helped Landlife, the charity in charge of the National Wildflower Centre in Huyton and Phytobotanica UK, founder of the first essential oils research centre in Europe, to lease the farm from the Knowsley Hall estate.

Grant Luscombe, chief executive of Landlife, said the move to St Helens would bring together wildflower sites from across Merseyside.

Mr Luscombe said: "This is an enormous piece of land some 250-300 acres within which we will plant more than 100 acres over the next three years.

"We already grow and produce crop seed for retail but this will bring together Phytobotanica's lavender field and an education centre and cafe shop where people will be able to visit.

"We have always worked closely with the farming population and this move will be fantastic for wildlife and the bird population.

"Not only will it look great from the Rainford bypass but it will hopefully attract real rarities such as the corncrake, alongside other bird life, partridges and hares." Colleague Jan Pell added: "Once the fields are established, we will also use the farm for some of our project work researching sustainable landscapes, while the living seed bank will conserve some species that would not otherwise survive, so that we can continue to establish new wildflower landscapes across the UK."

The project is being billed by St Helens Council as an integral part of the borough's Rural Economy Action Plan (REAP) as well as the wider City Growth Strategy. Dr Jane Collins, of Phytobotanica UK, said: "This is a very exciting project as essential oils production on this scale is virtually unprecedented in the UK and it will be really something to see when the plants come into flower.

"As well as the crops, if we can secure planning permission we will also have an education and training base where we intend to deliver courses in aromatherapy and other complementary therapies.

"Our students would then be able to study surrounded by fields of organic essential oil crops, watch us do our research and development in our unique on-farm laboratory and see the whole thing from the crops to the oil in the bottle."

A planning application is not required for the field planting, but it is expected that an application for a training/education centreon the site should be submitted to the council within the next month.

Source : http://www.liverpooldailypost.co.uk/liverpool-news/regional-news/2008/03/07/flower-oils-plan-aims-to-bring-new-life-to-old-farm-64375-20571820/

Sounds like a good idea

Plants provide an indispensable source of essential oils that are used in a number of industries, including perfumery, food and nutrition. They are also being probed by academic and industrial organisations in the search for new bioactive compounds to treat a multitude of diseases, including the ubiquitous cancers. All of these activities rely on an efficient method for extracting the oils from the various plant parts, including the leaves and stems.

Traditional methods such as steam distillation and solid-liquid extraction have been supplemented by techniques like microwave-assisted extraction as ways to increase overall yields. However, many of these alternatives still increase the temperature of the sample, leading to the formation of unwanted by-products, and require the use of toxic organic solvents. A recent addition to the sample prep armoury is ultrasound-assisted extraction (UAE), which avoids sample heating and can be faster than other methods.

The potential of UAE for plant extractions has been explored in detail by scientists at the University of Cordoba in Spain. Maria Dolores Luque de Castro and colleagues from the Department of Analytical Chemistry reasoned that its speed and potentially high yields would make it an attractive alternative to conventional methods. They compared UAE to steam distillation (SD) and superheated water extraction (SWE) for essential oil extraction from five aromatic plants.

The team employed a dynamic system, in which the extractant was cycled through the vessel, rather than simply sitting there. A programmable pump changed the direction of the flow every 120 s to prevent the sample becoming compacted, which would increase the pressure in the system. Glass beads were added to the sample for the same reason. The extraction vessel was placed in a water bath with the ultrasonic probe positioned above.

The system was optimised with laurel leaves, considering eight variables in a multivariate analysis. The peak areas of selected analytes, identified by GC/MS, were measured by GC-FID and compared with those of a standard solution of nonane. The composition of the extractant fluid and the irradiation time were the most significant variables. The extractant was fixed at 100% ethanol.

The irradiation time was assessed in a kinetics study. It varied from analyte to analyte, bringing about maximum extraction yield in 2 min for some compounds and longer times for others. The optimum time was set to 10 min for four of the plants but 4 min for tuberose, since significant degradation was observed at longer times for this plant.

The remaining variables were set as follows: 10% radiation amplitude, 25% duty cycle, ultrasonic probe 0.1 cm above the vessel, water bath at 25 °C, flow rate 4 ml/min with a total volume of 8.5 ml in the dynamic system. After UAE, the extracts were shaken with hexane to partition the analytes into the hydrocarbon phase for GC analysis.

The optimised system was used to extract essential oils from dried leaves of laurel, rosemary, thyme, oregano and tuberose (a strongly scented lily), as well as tuberose flowers. UAE was able to extract greater amounts of many terpenoids and oxidised terpenoids than SD, and was at least as good as SWE for the majority of compounds. However, SWE run at the optimised conditions found in the literature was too severe for tuberose, degrading the components of the oils and producing minuscule yields.

The final extracts were more concentrated using UAE. In addition, the 10 min extraction time was far quicker than SD and SWE, which required 3 h and 35 min, respectively. The equipment costs are also lower and ethanol, a benign solvent, proved effective.

The gas chromatograms of the UAE extracts displayed higher amounts of the more volatile essential oil components, appearing at shorter retention times. This, say the researchers, provides an extract with an aroma closer to the natural scent of the plants than the other extracts.
The team recommend UAE for the extraction of aroma compounds from natural products, due to its speed, low energy and equipment costs, and relatively high yields.

Related links:

* Talanta 2008 (Article in Press): "Ultrasound-assisted dynamic extraction of valuable compounds from aromatic plants and flowers as compared with steam distillation and superheated liquid extraction"

The views represented in this article are solely those of the author and do not necessarily represent those of John Wiley and Sons, Ltd.

Source:http://www.separationsnow.com/coi/cda/detail.cda?id=18279&type=Feature&chId=1&page=1

Medicine at our doorsteps: Tejpat

Tejpat is a medium-sized evergreen tree with fragrant oblong lanceolate leaves, occasionally planted in gardens for its leaves in many places. But the leaves, which constitute the actual drug, are readily available as a commercial commodity everywhere in the country. The plants are raised from seeds sown in nursery beds in March-April. Seedlings appear 30-45 days after sowing and are transplanted when 4-5 years old. Sufficient shade is provided in the early stages of growth and shade trees are cleared after 8-9 years. The fields are not usually manured; under-growth in occasionally removed. The leaves are ready for harvesting when the trees become 10 years old, and they continue to bear for a century. The leaves are collected every year from young plants and in alternate years from old and weak ones. Collections are made in dry weather from October to till March. Continuous rain diminishes the aroma of the leaves. Small branches with leaves are dried in the sun for 3 or 4 days and tied up into bundles for collection.

Botanical name of Tejpat is Cinnammomum Tamala. The tree is cultivated in all districts of the country. It is also found wild in Tropical and subtropical Himalaya, 3000-7800 ft., Sylhet and Khasia hills, 3000 - 4000 ft. The leaves are commonly used as a condiment, but they are also employed in calico printing in combination with marabolans.

The outer bark of the plant yields on distillation an essential oil. It is chiefly used in the manufacture of soap, especially what is called Military soap. The oil from bark contains cinnamaldehyde (70-85 %) as a major constituent. The leaves are mainly used as spice. The dried leaves act as anti-oxidant to oils and fats.

Medicinal Properties: The leaf is bitter, sweetish; heating, alexiteric; useful in "vata", scabies, diseases of the anus and rectum, "tridosha", piles, heart troubles, ozoena, bad taste (Ayurveda). The leaf has a sharp taste; tonic to the brain, anthelmintic, diuretic; good for the liver and spleen; useful in inflammation, sore eyes; stops salivation (Yunani). In the Punjab, the leaves are used in rheumatism, being considered stimulant; also in colic and diarrhoea. The bark is given for gonorrhoea. Given in decoction or powder in suppression of lochia after childbirth, with much benefit. The oil from the bark is ineffective as an anthelmintic. The leaves are not an antidote to either snakevenom or to scorpion-venom. (Indian Medicinal Plants, K.R. Kirtikar & B.D. Basu, Vol. III, 2146-47)

Source:
http://nation.ittefaq.com/issues/2008/03/09/news0749.htm

Events Calendar

	April	6-10	American Chemical Society – National Meeting & Exposition	New Orleans, LA, USA	http://www.acspresscenter.org/
		13-14	Natural Products Europe	London, UK	www.naturalproducts.co.uk/07/public/enter.aspx
		22-24	Food Ingredients Central & Eastern Europe	Warsaw, Poland	www.ni-events.com
		21-30	Training on Essential Oil Processing Technology	Lucknow , India	http://www.cimap.res.in/SPSKhanuja_biodata.htm
		23-25	Sial – The Global Food Marketplace, Montreal	Montreal, Canada	http://www.sial.fr
		28-30	Supplyside East	Secaucus, New Jersey, USA	http://www.supplysideshow.com/east/
	May	14-16	Sial – The Global Food Marketplace, France	Shanghai, China	http://www.sial.fr
		20-22	Natural Ingredients China	Shanghai, China	www.ni-events.com
	June	1-5	Society for Economic Botany - Annual Meeting	Durham, North Carolina	www.econbot.org/_welcome_/to_seb.php
		28 June-2 July	Institute for Food Technologists (IFT) Annual Expo and Food Expo	New Orleans, LA	http://www.am-fe.ift.org/cms/
	August	3-8	American Society of Pharmacognosy (ASP) annual meeting (International meeting with AFERP, GA, and PSE)	Athens, Greece	http://www.phcog.org/meetings.html
	October	22-24	Supplyside West	Secaucus, New Jersey, USA	http://www.supplysideshow.com/west/
		19-23	SIAL	Paris, France	www.sial.fr
	November	4-6	Natural Ingredients	Paris, France	www.ni-events.com
		4-6	Heath Ingredients Europe	Paris, France	www.hi-events.com

MNS Reports

Monthly

Cut Flowers and Ornamental Plants

Market Trends in Europe, Events, Price Review, Regular features
65 varieties in 4 Asian markets (Cut Flowers)
94 varieties in 11 European markets (Cut Flowers)
45 varieties in 5 European markets (Ornamental Plants)

Fresh Tropical and Off-season Fruit and Vegetables

Some 85 tropical and off-season products in 11 European markets

Pharmaceutical Starting Materials/Essential Drugs

300 Most used substances in the production of essential drugs (generics) traded in major markets

Quarterly

Fruit Juices

Products alternating between selected European Markets and the United States market

Medicinal Plants & Extracts

A report covering various products in North America, Europe, India, China and Africa

Precious and Semi Precious Stone

Covers African supply situation to importing countries, primarily in the EU, the US, Japan, India and China.

Bi-Monthly

Spices

Quoting 30 Products in selected markets in Asia, Europe, the Middle East and the United States

Organics

Covers fruits and vegetables, fruit juice, coffee, tea, honey, essential oil & oleoresins, and spices.

Essential Oils & Oleoresins

Spices oils (including clove, cinnamon, ginger, cardamom); Spices seeds oils (coriander and others); herb oils (basil, thyme. sage); Citrus oils: perfumery oils (geranium, patchouli, vetiver and others)

International Trade Centre
UNCTAD/WTO

Market News Service
International Trade Centre
54-56 Rue de Montbrillant
Geneva, Switzerland
Tel: (+41) 22 7300 111
Fax: (+41) 22 7300 578
E-mail: mns@intracen.org