Disclaimer

This report has been prepared without formal editing, as a service to exporters and industries in developing countries by the Market News Service (MNS), Division of Market Development, International Trade Centre, The Joint Agency of the World Trade Organization and The United Nations.

No part of this report may be reproduced, stored in a retrieval system or transmitted in any form or by any means, without prior permission in writing from the International Trade Centre.

The mention of specific companies or of certain commercial products and brand names does not imply that they are endorsed or recommended by ITC in preference to others of a similar nature that are not mentioned.

The designations employed and the presentation of material on the map do not imply the expression of any opinion whatsoever on the part of the International Trade Centre concerning the legal status of any Country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Prepared by Josef Brinckmann & Associates
ITC Consultant

Contacts for Medicinal Plants & Extracts Information Providers:

Market intelligence, production and trade data, regulatory news, standards and specifications:
Mr. Josef Brinckmann at brink@sonic.net

Botanical prices, currency rates, trade event listings, global directory of herbal trade associations:
Ms. Tasha Goldberg at tashagoldberg@yahoo.com

Cover Picture:

Senna plant (Cassia angustifolia) ©2007 Steven Foster. For more information on medicinal and aromatic plant photography by Steven Foster Group, Inc., please visit: http://www.stevenfoster.com
**EDITORS NOTE**

*MNS Medicinal Plant and Extracts* report is a formatted version of a news and information bulletin prepared by the *International Trade Centre* to promote international trade in medicinal plants and botanical extracts. The revised version of the report includes substantially more information on the structure and function of the market. These additional features have been included after extensive consultation with existing subscribers and trade experts.

For subscription details please contact MNS in Geneva at the address given below.

**Coverage:** Issue No. 40 includes six regional reviews:

1. **AFRICA:** Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Morocco, Mozambique, Namibia, Niger, Nigeria, Réunion, Rwanda, Sahrawi Arab Democratic Republic, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, and Zimbabwe.

2. **CHINA and other East Asian Countries:** Brunei, Cambodia, China, Indonesia, Japan, Laos, Malaysia, Mongolia, Myanmar, North Korea, Philippines, Singapore, South Korea, Taiwan, Thailand, Timor-Leste, and Viet Nam.

3. **EUROPE:** Albania, Andorra, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, and United Kingdom.

4. **INDIA and other Asian Countries:** Afghanistan, Armenia, Azerbaijan, Bahrain, Bangladesh, Bhutan, Georgia, India, Iran, Iraq, Israel, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Maldives, Oman, Nepal, Pakistan, Palestine, Qatar, Saudi Arabia, Sri Lanka, Syria, Tajikistan, Turkey, Turkmenistan, United Arab Emirates, Uzbekistan, and Yemen.

5. **NORTH AMERICA:** Antigua and Barbuda, Bahamas, Barbados, Belize, Canada, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Granada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, and the United States of America.

6. **SOUTH AMERICA:** Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela.

The regional reviews cover the six main producing regions of the world. Information on Oceanic countries will be covered from time to time in a special features section of the bulletin.

**Scope:** Each regional section includes news on

- Demand and supply trends including industry news from the major producers in each region
- Indicative prices of raw materials
- Indicative prices of herbal extracts
- Trade specifications commonly used in each region.
- Trade fairs and conferences

**Prices:** Prices and quotations are in US dollars per kilo unless otherwise stated. They should be considered indicative only and reflect the price of a product of a specific grade or quality from the specified origin. The level of marker compounds (for chemical standardization of extracts) referred to in quotes is those commonly found in the industry. They do not imply any sort of “trading standard”.

In the pricing tables, if a botanical comes to market from both cultivation and wild collection, the order used (Cult/Wild or Wild/Cult) is based on the predominant method of harvest.
Great care should be taken when comparing prices of medicinal plants and extracts from differing origins as form structure and biochemical activity may differ considerably between very similar products.

**Specifications:** The selected specification sheets given are actual industry specifications or specified quality grades (e.g. PhEur-grade or USP-grade) commonly used by exporters and importers. We do not guarantee their content or accuracy nor wish to imply that they have any legal status in trade.

**Subscriptions:** To subscribe to the MNS Medicinal Plants and Extracts report or learn more about the many other MNS services provided by ITC please contact:

Market News Service (MNS)
International Trade Centre UNCTAD/WTO
Palais des Nations, 1211 Geneva 10, Switzerland
Tel: +41 22 730 01 11 Fax: +41 22 730 05 72
E-MAIL for general enquiries mns@intracen.org
E-MAIL for subscriptions: mns-subs@intracen.org
Web: http://www.mnsonline.org
**SPECIAL FEATURES**

**Issue No. 40** includes six regional reviews each with a special focus on one selected high-volume exported botanical from the region. Each review analyzes and summarizes the production scenario, grade and quality standards, specifications, export trade data, market access information, regulatory framework and therapeutic uses of the botanical in the destination countries, and more.

**Trade Specifications:** Each edition contains trade specifications for medicinal plants and/or their extractives from each of six covered regions. In this issue you will find specifications from each of the six regions for botanical ingredients that are used as components of herbal medicinal products and/or natural health products: **Aloe ferox bitter powder** (Africa; South Africa), **Chrysanthemum flower** (Eastern Asian Countries: China), **English lavender flower** (Europe; Bulgaria, Albania, France), **Rauwolfia root** (India and other Asian countries), **Candelilla wax** (North America; Mexico), and **Jaborandi leaf tincture** (South America; Brazil).

**Back Issues:** Each edition also includes an alphabetical reference list of trade specifications that are available in back issues of the MNS since 2001.

**Global Herb Trade Association Directory:** Each edition includes a regularly updated directory with contact information for herb trade associations, councils and export promotion organizations that represent the growers, wild collectors, processors, and traders of medicinal herbs and extracts.

**Links to Sustainability Standards and Guidance Documents Relevant to the Global Trade of Medicinal and Aromatic Plants and Extracts:** Each edition includes a regularly updated section providing links to further information on the various sustainability standards being implemented at medicinal, culinary and aromatic plant harvest sites, the standards setting organizations and certification or verification organizations.

### Rates of Exchange: 11 September 2011

<table>
<thead>
<tr>
<th>CURRENCY</th>
<th>CODE</th>
<th>UNITS 1 / USD</th>
<th>UNITS 1 / EUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Pound</td>
<td>GBP</td>
<td>0.6297</td>
<td>0.86</td>
</tr>
<tr>
<td>Canadian Dollar</td>
<td>CAD</td>
<td>0.9967</td>
<td>1.3612</td>
</tr>
<tr>
<td>Chinese Yuan Renminbi</td>
<td>CNY</td>
<td>6.3925</td>
<td>8.7306</td>
</tr>
<tr>
<td>Egyptian Pound</td>
<td>EGP</td>
<td>5.9833</td>
<td>8.1716</td>
</tr>
<tr>
<td>EURO</td>
<td>EUR</td>
<td>0.7322</td>
<td>1.0000</td>
</tr>
<tr>
<td>Hong Kong Dollar</td>
<td>HKD</td>
<td>7.7962</td>
<td>10.6476</td>
</tr>
<tr>
<td>Indian Rupee</td>
<td>INR</td>
<td>46.735</td>
<td>63.8284</td>
</tr>
<tr>
<td>Japanese Yen</td>
<td>JPY</td>
<td>77.765</td>
<td>106.2076</td>
</tr>
<tr>
<td>Malaysian Ringgit</td>
<td>MYR</td>
<td>3.0095</td>
<td>4.1102</td>
</tr>
<tr>
<td>Mexican Peso</td>
<td>MXN</td>
<td>12.6875</td>
<td>17.3279</td>
</tr>
<tr>
<td>Moroccan Dirham</td>
<td>MAD</td>
<td>8.205</td>
<td>11.2059</td>
</tr>
<tr>
<td>Nepalese Rupee</td>
<td>NPR</td>
<td>73.2</td>
<td>99.973</td>
</tr>
<tr>
<td>Peruvian Nuevo Sol</td>
<td>PEN</td>
<td>2.7275</td>
<td>3.725</td>
</tr>
<tr>
<td>Russian Ruble</td>
<td>RUB</td>
<td>30.062</td>
<td>41.0572</td>
</tr>
<tr>
<td>South African Rand</td>
<td>ZAR</td>
<td>7.286</td>
<td>9.9508</td>
</tr>
<tr>
<td>Swiss Franc</td>
<td>CHF</td>
<td>0.8837</td>
<td>1.2068</td>
</tr>
<tr>
<td>Taiwan Dollar</td>
<td>TWD</td>
<td>29.2095</td>
<td>39.8929</td>
</tr>
<tr>
<td>United States Dollar</td>
<td>USD</td>
<td>1.0000</td>
<td>1.3658</td>
</tr>
</tbody>
</table>

Source: Yahoo® Finance Currency Converter
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEZ:</td>
<td>Agri Export Zones</td>
</tr>
<tr>
<td>API:</td>
<td>Ayurvedic Pharmacopoeia of India</td>
</tr>
<tr>
<td>AYUSH:</td>
<td>Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy</td>
</tr>
<tr>
<td>BP:</td>
<td>British Pharmacopoeia</td>
</tr>
<tr>
<td>CBD:</td>
<td>Convention on Biodiversity</td>
</tr>
<tr>
<td>CCC:</td>
<td>Standard Classification of Commodities of the Republic of China</td>
</tr>
<tr>
<td>CCCCS:</td>
<td>Commodity Classification for China Customs Statistics</td>
</tr>
<tr>
<td>cfu/g:</td>
<td>Colony-forming units per gram</td>
</tr>
<tr>
<td>C&amp;F:</td>
<td>Cost &amp; Freight; means the price includes cost and freight charges</td>
</tr>
<tr>
<td>CFR:</td>
<td>Seller has the same responsibilities as when shipping FOB, but shipping costs are prepaid by the seller</td>
</tr>
<tr>
<td>CIF:</td>
<td>Cost Insurance Freight; means the price includes cost, freight and insurance</td>
</tr>
<tr>
<td>CITES:</td>
<td>Convention on International Trade in Endangered Species of Wild Flora &amp; Fauna</td>
</tr>
<tr>
<td>CL:</td>
<td>Container load</td>
</tr>
<tr>
<td>C/S:</td>
<td>Cut and sifted</td>
</tr>
<tr>
<td>COMTRADE:</td>
<td>Commodity Trade Statistics Database</td>
</tr>
<tr>
<td>COSEWIC:</td>
<td>Committee on the Status of Endangered Wildlife in Canada</td>
</tr>
<tr>
<td>EMEA:</td>
<td>European Medicines Agency</td>
</tr>
<tr>
<td>Essential Oils:</td>
<td>Odorous product, usually of complex composition, obtained from a botanically defined plant raw material by steam distillation, dry distillation, or a suitable mechanical process without heating</td>
</tr>
<tr>
<td>Extracts:</td>
<td>Preparations of liquid (liquid extracts and tinctures), semi-solid (soft extracts and oleoresins) or solid (dry extracts) consistency obtained from Herbal Drugs or animal matter prepared by suitable methods using ethanol or other suitable solvents</td>
</tr>
<tr>
<td>EXW:</td>
<td>Ex works - Buyer arranges for pick up of goods at the seller's location. Seller is responsible for packing, labeling, and preparing goods for shipment on a specified date or time frame</td>
</tr>
<tr>
<td>Farm Gate Price:</td>
<td>Refers to the dollar value of agricultural products that you receive from direct farm sales or the value of primary products used for processing</td>
</tr>
<tr>
<td>FAS:</td>
<td>Free alongside ship - Buyer arranges for ocean transport. Seller is responsible for packing, labeling, preparing goods for shipment and delivering the goods to the dock.</td>
</tr>
<tr>
<td>FAS Value:</td>
<td>Value of exports at the seaport, airport, or border port of exportation, based on the transaction price including inland freight, insurance, and other charges incurred in placing the merchandise alongside the carrier at the port of export</td>
</tr>
<tr>
<td>FCA:</td>
<td>Free carrier: seller is responsible for costs until the buyer's named freight carrier takes charge</td>
</tr>
<tr>
<td>FCL:</td>
<td>Full container load</td>
</tr>
<tr>
<td>FLO:</td>
<td>Fairtrade Labelling Organizations International</td>
</tr>
<tr>
<td>FOB:</td>
<td>Free On Board - means that the price only includes the cost of the item. Seller arranges for transport of the goods, preparing goods for shipment, and loading the goods onto the vessel</td>
</tr>
<tr>
<td>FOR &amp; FOT:</td>
<td>Free On Rail or Free on Truck; both refer to goods being carried by rail and should only be used when the goods are carried by rail. The risk of loss or damage is transferred when the goods are loaded onto the rail.</td>
</tr>
<tr>
<td>FSC:</td>
<td>Forest Stewardship Council</td>
</tr>
<tr>
<td>FTA:</td>
<td>Free Trade Agreement</td>
</tr>
<tr>
<td>FTC:</td>
<td>Fair Trade Certified</td>
</tr>
<tr>
<td>FWC:</td>
<td>FairWild Certified</td>
</tr>
<tr>
<td>FWF:</td>
<td>FairWild Foundation</td>
</tr>
<tr>
<td>GACP:</td>
<td>Good Agricultural and Collection Practice</td>
</tr>
</tbody>
</table>
GAP: Good Agricultural Practice
GMP: Good Manufacturing Practice
ha: Hectare

Herbal Drug Preparations: Obtained by subjecting Herbal Drugs to treatments such as extraction, distillation, expression, fractionation, purification, concentration or fermentation. These include comminuted or powdered herbal drugs, tinctures, extracts, essential oils, expressed juices and processed exudates.

Herbal Drugs: Whole, fragmented, or cut plants, parts of plants, algae, fungi or lichen, in an unprocessed state, usually in dried form but sometimes fresh. Certain exudates that have not been subjected to a specific treatment are also considered to be herbal drugs.

Herbal Teas: Consist exclusive of one or more Herbal Drugs intended for oral aqueous preparations by means of decoction, infusion or maceration; usually supplied in bulk form or in sachets.

HPLC: High Performance Liquid Chromatography
HPTLC: High Performance Thin Layer Chromatography
HS Code: Harmonized System Code
I/S: In-store meaning the herb (e.g. flaxseed) is in the grain elevator
ITC (HS): Indian Trade Classification Harmonized System
ITC: International Trade Centre / UNCTAD / WTO
MAP: Medicinal and Aromatic Plants
NLT: Not less than
NHP: Natural Health Product (Canada)
NAICS: North American Industry Classification System
NOSOI: Not Elsewhere Specified Or Included
NMT: Not more than
NOP: National Organic Program (USDA)
NTFP: Non Timber Forest Products
OTC: Over the Counter medicines: Medicines sold without a prescription
PE: Powdered Extract
PhEur: European Pharmacopoeia
PhFr: Pharmacopée Française
SE: Soft Extract
TBC: Tea bag cut
TCM: Traditional Chinese Medicine
THM: Traditional Herbal Medicine
THMP: Traditional Herbal Medicinal Product
TLC: Thin Layer Chromatography
UPI: Unani Pharmacopoeia of India
USD: United States Dollar
USDA: United States Department of Agriculture
USP: United States Pharmacopeia
VAT: Value Added Tax
ALOE PRODUCTION AND TRADE FROM AFRICA

Aloe is among Africa's most important medicinal plant offerings to the global natural ingredients trade. There are approximately 360 species and subspecies in the succulent plant genus Aloe, growing wild throughout Africa, with species found mainly in the drier areas, and into the Arabian Peninsula and islands off the East Coast from Socotra to Madagascar in the Indian Ocean.

Global trade is dominated however by products of the species Aloe barbadensis (syn.: A. vera), which is only known in cultivation. Other species traded globally and used as components of cosmetic, food and/or medicinal products are wild harvested including Aloe africana Miller (harvested in South Africa), Aloe andongensis Baker (Angola), Aloe arborescens Miller (Malawi, Mozambique, South Africa, Swaziland, Zimbabwe), Aloe ferox Miller (Lesotho, South Africa), Aloe perryi Baker (Yemen), and Aloe spicata L.f. (Mozambique, South Africa, Swaziland, Zimbabwe).

Commerce and Botanical names

African aloe: Aloe africana Miller
Barbados aloe: Aloe barbadensis Miller (syn. Aloe vera (L.) Burm. f.)
Cape aloe: Aloe ferox Miller and hybrids of this species with Aloe africana Miller and Aloe spicata Baker
Curaçao aloe: Aloe barbadensis Miller (syn. Aloe vera (L.) Burm. f.)
Krantz aloe: Aloe arborescens Miller
Perry's aloe: Aloe perryi Baker

Common names

Afrikaans: Bitteraalwyn; Bergaalwyn; Tapaalwyn (A. ferox); Kransaalwyn (A. arborescens); Uitenhaagsaalwyn (A. africana)
Arabic: Sibr (A. barbadensis)
Ayurvedic pharmacopoeia: Kanyasara (A. barbadensis)
Chinese: Lu hui (芦荟) (A. ferox and/or A. barbadensis)
Dutch: Kaapse Aloë; Aloë (A. ferox)
English: Aloe vera (A. vera); Cape aloe (A. ferox)
French: Aloës des Barbades; Aloës de Curaçao (A. barbadensis); Aloès du Cap (A. ferox)
German: Curaçao-Aloes (A. barbadensis); Kap-Aloe (A. ferox)
Hindi: Musabhar; Elva; Ghikanvar; Kumari (A. barbadensis)
Indian trade name: Kumari (A. barbadensis)
Persian: Sibr (A. barbadensis)
Sanskrit: Kumarirasasambahva; Sahasara; Ghritra Kumari; Kanya (A. barbadensis)
Sesotho: Lekhala la Quthing (A. ferox)
Spanish: Aloe de Barbados (A. barbadensis); Aloe del Cabo (A. ferox)
Unani pharmacopoeia: Sibr (A. barbadensis)
Urdu: Musabbar; Ailva; Sibr; Ghikwar (A. barbadensis)
Xhosa: iKhalá (A. ferox); Unomaweni (A. arborescens)
Zulu: iNhlaba; umHlaba (A. ferox); Inkalane (A. arborescens)

Pharmacopoeial names

Aloe barbadensis Barbados Aloes
Aloe capensis Cape Aloes
Aloe pulverata Powdered Aloes
Aloes extractum siccum normatum Standardized Aloes Dry Extract

---

Harmonized System Tariff Codes (HS Codes)

1211908590 Aloe Vera Gel, fresh, as chips (3 × 3 × 3 mm) for use as raw material for drink preparations for food industry, not put up for retail sale. Source: BTI

1302190050 Aloe extracts. Source: CAPMAS

13021910000 Saps and extracts of Aloes (other than extracted oleoresins); Source: CCC

1302198000 Saps or extracts of Aloe Vera in bulk liquid form used for the manufacture of cosmetic products or food products. Source: BTI

1302199040 Aloe Ferox Bitter Crystal and Aloe Ferox Bitter Powder, imported in bulk form, from South Africa. Source: HTSUS

2008998000 Aloe Vera (frozen), a pulpy mass from fresh leaves (diced, washed, pasteurized, and frozen), used as a food additive or supplement. Source: HTSUS

210690 Aloe Vera tablets, put up for retail sale (e.g., 60 tablets), consisting of 3% aloe vera powder (containing 0.11% aloin) and excipients. Source: WCO

2106909260 Capsules containing freeze dried powdered Aloe Vera, put up for retail sale Source: BTI

21069099 Aloe Vera gel (drinkable), put up for retail sale in 1 liter containers. Source: HTSUS

2106909998 Aloe dietary supplement products in liquid form, put up for retail sale. Source: HTSUS

2202901019 Aloe Vera gel drink as a food supplement. Source: BTI

2202901099 A ready-to-drink health drink made from Aloe Vera inner leaf gel. Source: BTI

2202909090 Aloe Vera Drink, packaged in 250 ml pop-top cans and ready for immediate consumption, consisting of aloe vera juice, aloe vera pulp, and sugar, flavored by either lime juice or honey. Source: HTSUS

2309909990 Aloe Vera Drinking Gel for animals. Source: BTI

33019016003 Extracted oleoresins of Aloes. Source: CCC

3304990000 Aloe Vera Gel beauty and cosmetic creams, put up for retail sale. Source: BTI

3305100000 Shampoos containing stabilized Aloe Vera Gel. Source: BTI

3305300000 Hair sprays containing Aloe Vera. Source: BTI

3305900000 Hair styling gel containing stabilized Aloe Vera Gel. Source: BTI

3306100000 Toothpastes containing stabilized Aloe Vera Gel. Source: BTI

3307100000 Shaving preparations containing Aloe Vera Gel. Source: BTI

3307900000 Skin cleansing, massage, or moisturizing products containing Aloe Vera Gel for animal or human use. Source: BTI

HS Code Sources Legend:

- **BTI**: Binding Tariff Information (BTI) rulings of the European Commission Taxation and Customs Union
- **CAPMAS**: Central Agency for Public Mobilization And Statistics (CAPMAS) Arab Republic of Egypt
- **CCC**: Standard Classification of Commodities (CCC) of the Republic of China (Taiwan)
- **HTSUS**: U.S. Customs rulings for Harmonized Tariff Schedule of the United States (HTSUS)
- **WCO**: World Customs Organization (WCO) Compendium of Classification Opinions

North American Industry Classification System Code (NAICS Code)

111998 Aloe farming is classified under the 6-digit NAICS Code 111998 (All Other Miscellaneous Crop Farming).

The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. NAICS was developed under the auspices of the Office of Management and Budget (OMB), and adopted in 1997 to replace the Standard Industrial Classification (SIC) system. It was developed jointly by the U.S. Economic Classification Policy Committee (ECPC), Statistics Canada, and Mexico’s Instituto Nacional de Estadística y Geografía to allow for a high level of comparability in business statistics among the North American countries.

Native habitat and distribution

- **Aloe africana**: Native to South Africa (southeastern part in the Eastern Cape).
- **Aloe andongensis**: Native to Angola (Pungo Andongo in the Cuanzo Norte district).
- **Aloe arborescens**: Native to Malawi, Mozambique, South Africa, Swaziland, and Zimbabwe.

---

Aloe barbadensis (syn. A. vera): Probably native to northern Africa along the upper Nile in the Sudan, subsequently introduced and naturalized in the Mediterranean region, most of the tropics and warmer areas of the world. Barbados Aloe has become completely naturalized in India, especially in the hot dry valleys of northwestern Himalayas, and grows wild along the coasts of Mumbai, Gujarat and southern India. In China, this species may be naturalized in the hot, dry Yuan Jiang valley in southern Yunnan Province.

Aloe ferox: Native and endemic to South Africa and Lesotho. Its distribution extends from the Swellendam district in the Western Cape Province, through the Eastern Cape Province, southern Lesotho and into southern KwaZulu-Natal.

Aloe perryi: Native and endemic to the island of Socotra, Yemen.

Aloe spicata: Mozambique, South Africa, Swaziland, and Zimbabwe.

Main producing areas of main traded species

- Aloe arborescens: Wild collected in South Africa, also in Malawi, Mozambique, Swaziland and Zimbabwe. Widely cultivated in Asian (China, Israel, Japan), European (Italy) and South American countries (Uruguay).
- Aloe barbadensis (syn. A. vera): Widely cultivated mainly in North America (Mexico [States of Tamaulipas and San Luis Potosi], southern United States of America [States of Florida, Texas, Louisiana and Arizona], Dominican Republic, Costa Rica, Guatemala, and Netherland Antilles), South America (coastal Venezuela, Brazil and Argentina), and Asia (China, Thailand, India, Malaysia).
- Aloe ferox: Mainly wild collected in South Africa, also Lesotho. Also some supply from cultivation.

Product definitions:

Aloe USP: The dried latex of the leaves of Aloe barbadensis Mill. (Aloe vera L.), known in commerce as Curaçao Aloe, or of Aloe ferox Mill. and hybrids of this species with Aloe africana Mill. and Aloe spicata Baker, known in commerce as Cape Aloe (Fam. Liliaceae).

Aloe Vera Gel WHO: The colorless mucilaginous gel obtained from the parenchymatous cells in the fresh leaves of Aloe vera (L.) Burm. f. (Liliaceae).

Standardized Aloes Dry Extract PhyEur: Prepared from Barbados aloes or Cape aloes, or a mixture of both; contains 19.0% to 21.0% of hydroxyanthracene derivatives, expressed as barbaloin adjusted, if necessary (dried extract).

Aloe Extract and Juice Products that are used in cosmetics as listed in the European Commission Cosmetic Ingredients & Substances (CosIng) Database:

1. **Aloe Andongensis Leaf Extract** is an extract of the leaves of the aloe, *Aloe andongensis*, Liliaceae. Functions: Humectant, Skin Conditioning.
2. **Aloe Andongensis Leaf Juice** is the liquid expressed from the leaves of *Aloe andongensis*, Liliaceae. Functions: Humectant, Skin Conditioning.
3. **Aloe Arborescens Flower Extract** is an extract of the flowers of *Aloe arborescens*, Liliaceae. Function: Skin Conditioning.
4. **Aloe Arborescens Leaf Extract** is an extract of the leaves of *Aloe arborescens*, Liliaceae. Functions: Moisturizing, Skin Conditioning, Soothing.
5. **Aloe Arborescens Leaf Juice** is the liquid expressed from the leaves of *Aloe arborescens*, Liliaceae. Functions: Skin Conditioning.
6. **Aloe Arborescens Leaf Protoplasts** are the protoplast obtained from the leaves of *Aloe arborescens*, Liliaceae. Functions: Humectant, Skin Conditioning.
14. **Aloe Barbadensis Leaf Polysaccharides** is the polysaccharide fraction isolated from the leaf of the aloe, *Aloe barbadensis*, Liliaceae. Functions: Emollient, Film Forming, Humectant, Skin Conditioning.
17. **Aloe Ferox Leaf Extract** is an extract of the leaves of *Aloe ferox*, Liliaceae. CAS #: 84649-82-1. EINECS #: 283-462-8. Functions: Skin Conditioning.
20. **Aloe Ferox Leaf Juice Powder** is the powder obtained from the dried juice leaves of the aloe, *Aloe ferox*, Liliaceae. CAS #: 84649-82-1. EINECS #: 283-462-8. Functions: Skin Conditioning.
22. **Aloe Species Resin** is a resin obtained from various species of aloe, *Aloe spp.*, Liliaceae. CAS #: 84837-08-1. EINECS #: 284-293-2. Functions: Perfuming.

**Cosmetic uses**

In the EU, various processed forms (e.g. aqueous solution of steam distillate, expressed juice, extract, powdered dried juice, polysaccharide fraction, powdered plant material, protoplast, and resin) of various *Aloe* species (e.g. *A. andongensis*, *A. arborescens*, *A. barbadensis*, *A. ferox*, and *A. perryi*) are used for various different functions in cosmetic products including antioxidant (inhibits reactions promoted by oxygen, thus avoiding oxidation and rancidity), emollient (softens and smooths the skin),
film forming (produces, upon application, a continuous film on skin, hair or nails), humectant (holds and retains moisture), masking (reduces or inhibits the basic odour or taste of the product), oral care (provides cosmetic effects to the oral cavity, e.g. cleansing, deodorizing, protecting), perfuming (used for perfume and aromatic raw materials), skin conditioning (maintains the skin in good condition), and soothing (helps lightening discomfort of the skin or of the scalp).  

Food additive uses

In the US, aloe (plant parts, fluid and solid extracts) obtained from Aloe perryi, A. barbadensis, A. ferox, and hybrids of this species with A. africana and A. spicata may be used as a natural flavoring substance and/or natural adjuvant in food products so long as the minimum quantity required to produce the intended physical or technical effect is used.  

Therapeutic uses (Aloe Vera Gel) - Table 1: Therapeutic uses of Aloe vera gel

<table>
<thead>
<tr>
<th>Source</th>
<th>Therapeutic use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Therapeutic Goods Administration (TGA)</td>
<td>Aids the relief of sunburn, insect bites, chafing rashes and irritation of other sensitive skin areas. For the first-aid care of minor burns: cool the affected area with cold water or ice first for a suitable period before applying gel. Medical advice should be sought for the care of more serious burns. Aids the relief of sunburn, insect bites, chafing rashes and irritation of other sensitive skin areas. For the first-aid care of minor burns: cool the affected area with cold water or ice first for a suitable period before applying gel. Medical advice should be sought for the care of more serious burns.</td>
</tr>
<tr>
<td>Health Canada Natural Health Products Directorate (NHPD)</td>
<td>Traditionally used in Herbal Medicine to help relieve minor burns including sunburn. Traditionally used in Herbal Medicine to assist healing of minor wounds such as cuts and burns, and minor skin irritations.</td>
</tr>
<tr>
<td>United States Food and Drug Administration (FDA)</td>
<td>Category III Active Ingredient (insufficient data to permit final classification). Insufficient data to permit final classification of the effectiveness of Aloe vera gel proposed as an OTC antiplaque / antilique active ingredient. FDA also proposes that certain Aloe vera ingredients that are not generally recognized as safe and effective (GRAS) and are without an approved new drug application (NDA) to be classified as Category II (nonmonograph). The proposal includes any topical antimicrobial drug products and/or any external analgesic drug products that contain aloe vera as well as any blemish remedies or wet dressings or other topical application drugs that contain aloe vera.</td>
</tr>
<tr>
<td>World Health Organization (WHO)</td>
<td>Medicinal uses supported by clinical data: None. Medicinal uses described in pharmacopoeias and in traditional systems of medicine: Aloe Vera Gel is widely used for the external treatment of minor wounds and inflammatory skin disorders. The gel is used in the treatment of minor skin irritations, including burns, bruises, and abrasions. The gel is further used in the cosmetics industry as a hydrating ingredient in liquids, creams, sun lotions, lip balms, healing ointments, and face packs. Aloe Vera Gel has been traditionally used as a natural remedy for burns. Aloe Vera Gel has been effectively used in the treatment of first- and second-degree thermal burns and radiation burns. Both thermal and radiation burns healed faster with less necrosis when treated with preparations containing Aloe Vera Gel. In most cases the gel must be freshly prepared because of its sensitivity to enzymatic, oxidative, or microbial degradation. Aloe Vera Gel is not approved as an internal medication, and internal administration of the gel has not been shown to exert any consistent therapeutic effect.</td>
</tr>
</tbody>
</table>

---

Therapeutic Uses (Aloes dried latex)

Table 2: Therapeutic uses of Aloes latex (dried juice of Aloe barbadensis and/or Aloe ferox)

<table>
<thead>
<tr>
<th>Source</th>
<th>Therapeutic use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayurvedic Pharmacopoeia of India (API)</td>
<td>Udararoga (diseases of abdomen), Kastartrava (dysmenorrhea), Jvara (fever),</td>
</tr>
<tr>
<td></td>
<td>Yakrdvikara (disorder of liver).</td>
</tr>
<tr>
<td>European Medicines Agency (EMEA)</td>
<td>Herbal medicinal product for short-term use in cases of occasional constipation.</td>
</tr>
<tr>
<td>Health Canada Natural Products Directorate</td>
<td>Traditionally used in Herbal Medicine as a stimulant laxative.</td>
</tr>
<tr>
<td>(NHPD)</td>
<td>Used in Herbal Medicine for the short-term relief of occasional constipation.</td>
</tr>
<tr>
<td>Pharmacopoeia of the People’s Republic of</td>
<td>Used in Herbal Medicine to promote bowel movement (by direct action on the large</td>
</tr>
<tr>
<td>China (PPRC)</td>
<td>intestine).</td>
</tr>
<tr>
<td>Unani Pharmacopoeia of India (UPI)</td>
<td>Qabz (constipation), Deedan-e-Ama (helminthiasis), Waram-e-Kabid (hepatitis),</td>
</tr>
<tr>
<td></td>
<td>Wajul-Mafasil (rheumatoid arthritis), Izm-e-Tehal (enlargement of the spleen),</td>
</tr>
<tr>
<td></td>
<td>Ethebas-e-Tams (Amenorrhea).</td>
</tr>
<tr>
<td>United States Food and Drug Administration</td>
<td>In 2002, FDA issued a final rule stating that the stimulant laxative ingredient</td>
</tr>
<tr>
<td>(FDA)</td>
<td>aloe dried latex (and extracts thereof) in over-the-counter (OTC) drug products</td>
</tr>
<tr>
<td></td>
<td>is not generally recognized as safe and effective (GRASE) for OTC use. FDA</td>
</tr>
<tr>
<td></td>
<td>reclassified aloe from category I (GRASE) to category II (nonmonograph) and</td>
</tr>
<tr>
<td></td>
<td>added it to the list of stimulant laxative ingredients for which the data are</td>
</tr>
<tr>
<td></td>
<td>inadequate to establish general recognition of safety and effectiveness for use.</td>
</tr>
<tr>
<td></td>
<td>Aloe dried latex (Aloe USP) however occurs as a component of a Category I GRASE</td>
</tr>
<tr>
<td></td>
<td>OTC drug product Compound Benzoin Tincture USP, an alcoholic liquid extract</td>
</tr>
</tbody>
</table>
|                                             | prepared from a mixture of Benzoin USP (balsamic resin obtained from Styx 
|                                             | rad benzoin, S. paralleleoneurus, or S. tankinensis), Aloe USP (dried latex of  |
|                                             | the leaves of Aloe barbadensis or of A. ferox and hybrids of this species with  |
|                                             | A. africana and A. spicata), Storax USP (balsam obtained from the trunk of       |
|                                             | Liquidambar orientalis or of L. styraciflua), and Tolu Balsam USP (balsam       |
|                                             | obtained from Myroxylon balsamum).                                             |

Quality Standards

Before exporting it is important to understand the various defined quality grades and standards that buyers (and/or regulations in destination market) may specify and/or require. There are pharmacopoeial monographs published for Aloes published in the European Pharmacopoeia (PhEur), Japanese Pharmacopoeia (JP), Pharmacopoeia of the People’s Republic of China (PPRC), and United States Pharmacopoeia (USP), as well as in the Ayurvedic Pharmacopoeia of India.

---

India (API),

Korean Herbal Pharmacopoeia (KHP),

Mexican Herbal Pharmacopoeia (FHEUM),

and Unani Pharmacopoeia of India (UPI), among others. The South African Bureau of Standards (SARB) has also established a South African National Standard (SANS) for Aloe raw material, which specifies requirements and related test methods for Aloe ferox raw material intended to be used in consumer products including health, cosmetic, health food, medicinal, veterinary and industrial products. Table 3 compares the Aloe quality standards of the JP, PhEur, and USP, which can be used as the basis of quality specifications for test and release of Aloe latex (dried juice).

### Table 3: Comparison of Selected Aloe Quality Standards

<table>
<thead>
<tr>
<th>Standard</th>
<th>Aloe JP XV</th>
<th>Aloe USP 34</th>
<th>Barbados Aloe PhEur 7.0</th>
<th>Cape Aloe PhEur 7.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>Dried juice of the leaves of Aloe vera, or of hybrids of the species with A. africana or A. spicata</td>
<td>Dried latex of the leaves of Aloe barbadensis (Aloe vera) or of Aloe ferox and hybrids of this species with A. africana and A. spicata</td>
<td>Concentrated and dried juice of the leaves of Aloe barbadensis</td>
<td>Concentrated and dried juice of the leaves of various species of Aloe, mainly Aloe ferox and its hybrids</td>
</tr>
<tr>
<td>Identification tests</td>
<td>Color reaction ID test (1)</td>
<td>Botanic characteristics</td>
<td>TLC ID tests A and B</td>
<td>TLC ID tests A and B</td>
</tr>
<tr>
<td>Characters</td>
<td>Appearance: blackish brown to dark brown, irregular masses, sometimes the external surface covered with a yellow powder; Odor: characteristic; Taste: extremely bitter</td>
<td>Odor: has a characteristic, somewhat sour and disagreeable odor</td>
<td>Appearance: dark brown masses, slightly shiny or opaque with a conchoidal fracture, or brown powder</td>
<td>Appearance: dark brown masses tinged with green and having a shiny conchoidal fracture, or greenish-brown powder</td>
</tr>
<tr>
<td>Content</td>
<td>NLT 4.0% of barbaloin, calculated on the basis of dried material; NLT 40.0% water-soluble extractive</td>
<td>NLT 10.0% alcohol insoluble substances; NLT 50.0% water-soluble extractive</td>
<td>NLT 28.0% of hydroxyanthracene derivatives, expressed as barbaloin (C_{21}H_{20}O_{9}, M, 418.4) (dried drug)</td>
<td>NLT 18.0% of hydroxyanthracene derivatives, expressed as barbaloin (C_{21}H_{20}O_{9}, M, 418.4) (dried drug)</td>
</tr>
<tr>
<td>Purity</td>
<td>NMT 5.0% resin</td>
<td>NMT 10% ethanol-insoluble substances</td>
<td>No standard</td>
<td>No standard</td>
</tr>
<tr>
<td>Loss on drying</td>
<td>NMT 12.0%</td>
<td>NMT 12.0%</td>
<td>NMT 12.0%</td>
<td>NMT 10.0%</td>
</tr>
<tr>
<td>Total ash</td>
<td>NMT 2.0%</td>
<td>NMT 4.0%</td>
<td>NMT 2.0%</td>
<td>NMT 2.0%</td>
</tr>
</tbody>
</table>

### Tolerances for pesticide residues

Table 4 shows the pesticide residue tolerances for Aloe vera established by the United States Environmental Protection Agency (EPA).

### Table 4: EPA-established Tolerances for Aloe vera

<table>
<thead>
<tr>
<th>Residue</th>
<th>Regulation</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyphosate</td>
<td>40 CFR §180.364</td>
<td>0.5 ppm</td>
</tr>
</tbody>
</table>

---

Production scenario
Useful publications for Aloe growers and processors are available including the following listed documents. In particular, the first listed publication, published by the International Aloe Science Council (IASC), provides Aloe vera production and cultivation information including 1) Climate; 2) Soil and fertilization; 3) Propagation; 4) Species identification; 5) Harvesting and yields; and 6) Post-harvest processing.

- International Aloe Science Council (IASC). Aloe Scientific Primer. Silver Spring, MD: IASC. Available at: [http://www.iasc.org/pdfs/IASC_Aloe_vera_A_Scientific_Primer.pdf](http://www.iasc.org/pdfs/IASC_Aloe_vera_A_Scientific_Primer.pdf)
- Das N, Chattopadhay RN. Commercial cultivation of Aloe vera. Natural Product Radiance. 2004;3(2):85-87: [http://nopr.niscair.res.in/bitstream/123456789/9406/1/NPR%20203%282%29%2085-87.pdf](http://nopr.niscair.res.in/bitstream/123456789/9406/1/NPR%20203%282%29%2085-87.pdf)

Selected South African suppliers of Aloe ingredients

<table>
<thead>
<tr>
<th>Supplier</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Aloe (Pty) Limited</td>
<td><a href="http://www.africanaloe.co.za">http://www.africanaloe.co.za</a></td>
</tr>
<tr>
<td>Afrigetics Botanicals</td>
<td><a href="http://www.afrigetics.com">http://www.afrigetics.com</a></td>
</tr>
<tr>
<td>Afrinatural Holdings</td>
<td><a href="http://www.afrinatural.com">http://www.afrinatural.com</a></td>
</tr>
<tr>
<td>Afriplex</td>
<td><a href="http://www.afriplex.co.za">http://www.afriplex.co.za</a></td>
</tr>
<tr>
<td>Bulk Botanicals</td>
<td><a href="http://www.bulkbotanicals.com">http://www.bulkbotanicals.com</a></td>
</tr>
<tr>
<td>Mokuti Herbs International</td>
<td><a href="http://www.mokuti.co.za">http://www.mokuti.co.za</a></td>
</tr>
<tr>
<td>Organic Aloe</td>
<td><a href="http://www.organicaloe.co.za">http://www.organicaloe.co.za</a></td>
</tr>
</tbody>
</table>
Aloe Associations and Councils

Aloe Council of South Africa (ACSA)
P.O. Box 524, Auckland Park, Johannesburg, 2006, South Africa
Tel: 011 559-3469
Fax: 011 559-241
Web: http://www.aloesa.co.za

Aloe Industry Committee
China Association for Promotion of Non-Governmental Sci-Tech Enterprises (CAPSNE)
111 Room, No. 54, San Li He Road, Xi Cheng District, Peking, China 100045
Tel: (86-10)68527951
Fax: (86-10)68527951
E-mail: aisc-adm@vip.sina.com
Web: http://www.aisc.org.cn

Aloe Vera Processor's Association of India
43/4, Harvey Road, Kadambur, Tuticorin District, Tamilnadu, India
E-mail: gans@bsnl.in
Web: http://www.aloeconnect.com

International Aloe Science Council (IASC)
8630 Fenton Street, Suite 918, Silver Spring, MD 20910 USA
Tel: (301)-588-2420
Fax: (301)-588-1174
Web: http://www.iasc.org

The Succulent Society of South Africa
P.O. Box 12580, Hatfield, Gauteng, 00287, South Africa
Tel: +27 12 993 3588
Fax: +27 12 993 3588
Web: https://www.succulentssociety.co.za

Uganda Commercial Aloe Vera Farmers Association
Plot 34 Rashid Khamis Road, P.O. Box 6179, Kampala, Uganda
Plot 22 A Tangue Street, P.O. Box 302, Masindi, Uganda
Tel: +256-772-696702, (PD) +256-41-345737
Fax: +256-41-257343
E-mail: ssesangaali@yahoo.com
Web: http://ucavfa.cfsites.org
BOTANICAL PRODUCT SPECIFICATIONS
Aloe Ferox Bitter Powder
a product of South Africa

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>Aloe Ferox Bitter Powder³⁹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botanical name</td>
<td>Aloe ferox Miller (Fam. Liliaceae)</td>
</tr>
<tr>
<td>Pharmacopoeial name</td>
<td>Aloe Capensis Pulvis</td>
</tr>
<tr>
<td>Part used</td>
<td>Concentrated and dried juice of the leaves</td>
</tr>
<tr>
<td>Production</td>
<td>Produced by removing the bitter sap from the Aloe ferox plant, processing the sap into crystalline lump form, crushing into smaller crystalline shapes, until a powder</td>
</tr>
</tbody>
</table>

| Preservatives | None |
| Cultivated or wild | Wild harvested |
| Packing | 20 kg bags |
| Storage | Stable for an unlimited time if kept in a moisture-free environment |

IDENTIFICATION

| Characters | Appearance: course powder Colour: yellow / brown Consistency: homogenous powder Odour: slight, unique Taste: extremely bitter |

TESTS

| Moisture | Less than 8% |
| Solids | 92% |
| Content (Aloin) | Greater than 8% aloin |

BOTANICAL RAW MATERIALS (indicative bulk prices)

<table>
<thead>
<tr>
<th>Product</th>
<th>Botanical Name</th>
<th>Cultivated or Wild</th>
<th>Origin</th>
<th>Price USD / kg</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chamomile flower**</td>
<td>Matricaria recutita</td>
<td>C</td>
<td>Egypt</td>
<td>12</td>
<td>FOB USA</td>
</tr>
<tr>
<td>Clove flower bud</td>
<td>Syzygium aromaticum</td>
<td>C</td>
<td>Madagascar/Zanzibar</td>
<td>21.83</td>
<td>Spot NY</td>
</tr>
<tr>
<td>Fennel fruit</td>
<td>Foeniculum vulgare</td>
<td>C</td>
<td>Egypt</td>
<td>2.76</td>
<td>Spot NY</td>
</tr>
</tbody>
</table>

* Certified organic / **Certified organic & Fair Trade / NK = not known

BOTANICAL EXTRACTS (indicative bulk prices)

<table>
<thead>
<tr>
<th>Product</th>
<th>Standard</th>
<th>Origin</th>
<th>Price USD/kg</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devil's claw root dry extract (Harpagophytum procumbens)</td>
<td>6:1 (w/w)</td>
<td>Africa</td>
<td>32</td>
<td>FOB Origin</td>
</tr>
<tr>
<td>Kola nut dry extract (Cola nitida)</td>
<td>10% caffeine</td>
<td>Africa</td>
<td>12.6</td>
<td>FOB Origin</td>
</tr>
</tbody>
</table>

Notes:
(1) Quality Standards: Official quality standards monographs for most the above listed botanical raw materials can be found in either the Egyptian Pharmacopoeia (4th edition 2005; Arabic and English editions), the Ghana Herbal Pharmacopoeia (1st Edition 1992; 2nd Edition 2007), and/or the European Pharmacopoeia (PhEur 7th edition 2011) or French Pharmacopoeia (PhFr X).
MEETINGS AND TRADE SHOWS
AFRICA

October 23-26, 2011
SAHARA; 24th INTERNATIONAL AGRICULTURAL EXHIBITION FOR AFRICA AND THE MIDDLE EAST
Venue: Cairo International Conference Center (CICC), Cairo, Egypt
Contact: TEL: +202 3346 4216 / 3344 7980
FAX: +202 3347 1155
E-MAIL: info@saharaexpo.com
WEB: http://www.saharaexpo.com

SAHARA is attended by traders, government officials, managers and experts from the Egyptian Ministry of Agriculture and Land Reclamation, farm managers and experts from national and foreign agricultural companies, wholesale trade firms, brokers, farmers and business people.

December 6-8, 2011
THE 1ST ANNUAL MEETING ON TOTAL QUALITY MANAGEMENT OF HERBS & MEDICINAL PLANTS & THEIR PRODUCTS: Packaging Technologies System for Enhancing the Exploration
Venue: Egyptian International Center for Agriculture Conference Hall, Giza, Egypt
Organizers: Agricultural Research Center, Food Technology Research Institute (FTRI), Horticultural Research Institute (HRI), Central Lab. For Organic Farming, Egyptian Society for producers, manufacturers and exporters of herbs and medicinal plants (ESMAP)
Contact: Conference General Secretariat & Exhibition Prof. Dr. Samah Allam, TEL: +20101160141
E-MAIL: samahallam@yahoo.com
WEB: http://www.tqm-herbs.com/index-eng.html

Main Topics: Herbs and medicinal plants feasibility studies and marketing strategies, international regulations and exportation obstacles, quality control and extracts standards, planting and manufacturing, modern system in packaging technologies, the role of herbs and medicinal plants in complementary medicine, functional foods, food processing, flavor and aroma enhancers and pharmaceutical and cosmetics.

December 11-13, 2011
BIO NAT II, THE SECOND EURO-MED CONFERENCE PLANT NATURAL PRODUCTS FROM BIODIVERSITY TO BIOINDUSTRY
Venue: Conference Center, Alexandria University, Alexandria, Egypt
Contact: Ashraf A Khalil, PhD
E-MAIL: bionat02@gmail.com, info@bionats.org
WEB: http://www.bionats.org

The conference will be accompanied by an exhibition open to academic institutions, scientific associations, non-profit foundations, banks, international organizations, pharmaceutical, cosmetic, agriculture and chemical industries, raw materials, and others who share a concern with medicinal plants, pharmaceuticals, cosmetics and natural products.

December 9-12, 2011
FOOD GATE & FRESH GATE EGYPT 2011
Venue: Congress Center, Sharm El Sheikh, Egypt

Exhibitor profile: Egypt’s top producers and exporters of herbs, spices and essential oils, as well as food ingredients, fresh fruits and vegetables.
March 22-24, 2012
FOURTH INTERNATIONAL SYMPOSIUM ON MEDICINAL AND AROMATIC PLANTS (SIPAM 2012)
Venue: Djerba, Tunisia
Organizers: The Institut des Régions Arides (IRA), Institution de la Recherche et de l’Enseignement Supérieur Agricoles (IRESA), the Ecole doctorale Sciences, Ingénierie et Société, the International Center of Agricultural Research in the Dry Areas (ICARDA), and the International Society of Horticultural Science (ISHS).
Contact: Dr. Neffati Mohamed
TEL +216 75 633 839
FAX +216 75 633 006
WEB: http://www.sipam.ira.rnrt.tn
Topics: Agro-Ecophysiology, Genetics and Biotechnology of MAP, Extraction process, analysis and chemistry of natural compounds, Valorisation of natural compounds in different industries (food, pharmacy, cosmetic…), Phytotherapy between traditional use and alternative medicine, MAPs and animal health, and MAP chain value: Socio-economical aspects, regulatory and normative requirements.
PRODUCTION AND TRADE OF CHRYSANTHEMUM FLOWER FROM THE PRC

The People’s Republic of China (PRC) is the world’s leading consumer, producer and exporter of the herbal drug Chrysanthemum flower, with a 2010 export trade volume of 11,655,963 kg (customs value of USD $22,477,542). In terms of volume, the top-five importers of Chrysanthemum flower from the PRC in 2010 were (1) Hong Kong Special Administrative Region (SAR) of the PRC, (2) Socialist Republic of Vietnam, (3) Malaysia, (4) Republic of Singapore, and (5) Kingdom of Thailand.

Botanical names: Chrysanthemum indicum Linné (Wild Chrysanthemum); syn.: Dendranthema indicum (L.) Des Moul. [Fam. Asteraceae] Chrysanthemum × morifolium Ramatuelle (Cultivated Chrysanthemum); syn.: Dendranthema × grandiflorum (Ramat.) Kitam. [Fam. Asteraceae]

Common names:
- Chinese: Ju hua (C. × morifolium); Ye ju hua (C. indicum)
- English: Chrysanthemum (C. × morifolium); Wild chrysanthemum (C. indicum)
- Japanese: Kikuka (C. × morifolium); Nogikuka (C. indicum)
- Korean: Gam-guk; Kukhwa (C. × morifolium); Yagukhwa (C. indicum)

Pharmacopoeial names: Flos Chrysanthemi (cultivated C. morifolium) Flos Chrysanthemi Indici (wild C. indicum)

Definitions
Chrysanthemi flos JP is the capitulum of 1) Chrysanthemum morifolium Ramatuelle or 2) Chrysanthemum indicum Linné or (Compositae).

Chrysanthemi flos KHP is the dried capitulum of Chrysanthemum indicum Linné or Chrysanthemum L. or Chrysanthemum morifolium Ramatuelle (Compositae).

Flos Chrysanthemi PPRC is the dried capitulum of Chrysanthemum morifolium Ramat. (Fam. Compositae).

Flos Chrysanthemi Indici PPRC is the dried capitulum of Chrysanthemum indicum L. (Fam. Compositae).

Harmonized System Tariff Codes (HS Codes)
HS 12119015 (CCCCS)
HS 12119091503 (CCC)

Native Habitat
Chrysanthemum morifolium is known only in cultivation. It is a very complex hybrid, developed over many centuries of breeding, involving the primary parental species C. indicum L. and possibly several other species.

C. indicum occurs in grasslands on mountain slopes, thickets, wet places by rivers, fields, roadsides, saline places by seashores, under shrubs; at between 100–2900 m. in altitude, in Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shandong, Sichuan, Taiwan, and Yunnan. Also occurs outside of China in Bhutan, India, Japan, Korea, Nepal, Russia and Uzbekistan.

43 Commodity Classification for China Customs Statistics (CCCCS): People’s Republic of China.
44 Standard Classification of Commodities of the Republic of China (CCC): Taiwan.
Main Producing Areas
- Bo ju hua (whitish florets) grown in Bo County, Anhui Province.
- Chu ju hua (whitish florets) grown in Chu County, Anhui Province.
- Gong ju hua (white or whitish florets) grown in Anhui Province.
- Hang ju hua (yellow and/or white florets) is distributed from Hangzhou in Zhejiang Province.

Medicinal Uses in Traditional Chinese Medicine (TCM):\(^{46}\)

**Action:** To dispel wind-heat, to subdue hyperactivity of the liver, and improve eyesight.

**Indications:** Wind-heat type common cold, headache and dizziness; inflammation of the eye; blurred vision.

Quality Standards
For the quality control testing of Chrysanthemum flower as an active medicinal ingredient, there are official pharmacopoeial monographs published in the Japanese Pharmacopoeia (JP), Korean Herbal Pharmacopoeia (KHP) and Pharmacopoeia of the People’s Republic of China (PPRC), which can be utilized for test and release specifications. **Table 1** compares the pharmacopoeial quality standards used in Japan and Korea.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Chrysanthemi flos JP</th>
<th>Chrysanthemi flos KHP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>Capitulum of 1) <em>Chrysanthemum morifolium</em> Ramatuelle or 2) <em>Chrysanthemum indicum</em> Linné or (Compositae).</td>
<td>Dried capitulum of <em>Chrysanthemum indicum</em> Linné or <em>Chrysanthemum morifolium</em> Ramatuelle (Compositae).</td>
</tr>
<tr>
<td>Identification tests:</td>
<td>Macroscopic Organoleptic Thin-layer chromatography</td>
<td>Macroscopic Color reaction test</td>
</tr>
<tr>
<td>Loss on drying</td>
<td>NMT 15.0%</td>
<td>NM% 10.0%</td>
</tr>
<tr>
<td>Foreign matter</td>
<td>No standard</td>
<td>NMT 3% of stalks and leaves</td>
</tr>
<tr>
<td>Total ash</td>
<td>NMT 8.5%</td>
<td>NMT 10.0%</td>
</tr>
<tr>
<td>Acid-insoluble ash</td>
<td>NMT 1.0%</td>
<td>NMT 1.5%</td>
</tr>
<tr>
<td>Extract content</td>
<td>NLT 30.0% of dilute ethanol-soluble extract</td>
<td>More than 5.0% ether-soluble extract</td>
</tr>
</tbody>
</table>

**LEGEND**
KHP IV 2002: Korean Herbal Pharmacopoeia
PPRC 2005: Pharmacopoeia of the People’s Republic of China

Production Scenario
Cultivated chrysanthemum flower is harvested in batches in September to November while flowering. It is dried in the shade or by baking or dried in the sun after fuming and steaming. It is classified into —Boju”, “Chuju”, “Gongju” and “Hangju” according to different localities of production and variations in processing methods. Wild chrysanthemum flower is harvested at the early state of flowering in autumn and winter, dried in the sun or dried after steaming.

Market Prices
The Chengdu medicinal plant price index can be accessed on-line at: [http://www.ysindex.com](http://www.ysindex.com) and is presently available in Chinese language only. Here is an example of an entry for Hangzhou Bai Ju Hua (dried white chrysanthemum flower from Hangzhou, Zhejiang Province) with pricing quoted for 11 October 2011 and past 12 weeks comparison chart.

---

杭州白菊 (一等) (Yuan/kilogram) – Hangzhou Bai Ju Hua (Yuan/kilogram)

<table>
<thead>
<tr>
<th>Time (Date)</th>
<th>Quoted price (Yuan/kg)</th>
<th>Increase / Decrease from previous week</th>
<th>Percentage Change from previous week</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011年10月10日</td>
<td>50.00</td>
<td>-10.00</td>
<td>-16.67%</td>
</tr>
</tbody>
</table>

Information on the average prices paid by importing countries (customs value) is available through various trade databases. The average prices however are only indicative and not specific enough to be applicable to any particular grade or quality of chrysanthemum flower. Nor is there certainty that the declared customs values correspond to actual invoiced prices. In 2011, the average price being paid by the leading importer, Hong Kong Special Administrative Region (SAR) of the PRC, is USD $2.369 / kg. Average prices paid in other markets however were significantly higher than Hong Kong.

Table 2 shows the average prices paid, in units of USD per kg, for China’s main export markets for chrysanthemum flower, 2009, 2010 and year-to-date 2011.

Table 2: Average prices of Chrysanthemum flower in selected importing countries / 2009, 2010 and 2011 / USD per kg / %Change of price

<table>
<thead>
<tr>
<th>Importer</th>
<th>Unit</th>
<th>Average Price (USD)</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong</td>
<td>$ per kg</td>
<td>0.763</td>
<td>0.854</td>
<td>2.369</td>
<td>11.92%</td>
<td>177.52%</td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>$ per kg</td>
<td>5.478</td>
<td>8.938</td>
<td>7.604</td>
<td>63.16%</td>
<td>-14.93%</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>$ per kg</td>
<td>5.383</td>
<td>10.758</td>
<td>9.819</td>
<td>99.84%</td>
<td>-8.73%</td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td>$ per kg</td>
<td>2.937</td>
<td>3.403</td>
<td>4.182</td>
<td>15.85%</td>
<td>22.91%</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>$ per kg</td>
<td>5.135</td>
<td>10.073</td>
<td>9.315</td>
<td>96.18%</td>
<td>-7.53%</td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: China Trade Data

Value and Volume of China’s Exports of Flos Chrysanthemi (HS 1211.9015)

In calendar year 2010, China exported 11,655,963 kg (customs value of USD $22,477,542) of chrysanthemum flower, about 25% more than previous year. See Table 3.

In terms of volume (kg), the top-five importers of medicinal chrysanthemum flower were Hong Kong Special Administrative Region (SAR) of the PRC 9,425,152 kg (80.86% of total PRC exports; presumably mainly for re-export), Socialist Republic of Vietnam 854,891 kg (7.33%), Malaysia 440,674 kg (3.78%), Republic of Singapore 341,276 kg (2.93%), and Kingdom of Thailand 239,355 kg (2.05%). See Table 3, which shows the PRC’s exports of Chrysanthemum flower, in terms of value and volume, for the years 2008, 2009 and 2010.
Table 3: China Exports of Chrysanthemum flower 2008, 2009, 2010 / Trade value (USD) / Trade quantity (kg)

<table>
<thead>
<tr>
<th>Partner</th>
<th>Export Trade Value (USD)</th>
<th>Export Trade Volume (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2009</td>
</tr>
<tr>
<td></td>
<td>2008</td>
<td>2009</td>
</tr>
<tr>
<td>TOTAL</td>
<td>14907892</td>
<td>15182670</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>3016836</td>
<td>4574654</td>
</tr>
<tr>
<td>Malaysia</td>
<td>3562086</td>
<td>1900897</td>
</tr>
<tr>
<td>Singapore</td>
<td>3548685</td>
<td>3003430</td>
</tr>
<tr>
<td>Vietnam</td>
<td>1387436</td>
<td>2840680</td>
</tr>
<tr>
<td>Thailand</td>
<td>1275164</td>
<td>1327312</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>355389</td>
<td>276321</td>
</tr>
<tr>
<td>United States</td>
<td>461219</td>
<td>155981</td>
</tr>
<tr>
<td>Korea Rep.</td>
<td>173557</td>
<td>108354</td>
</tr>
<tr>
<td>Japan</td>
<td>155597</td>
<td>196927</td>
</tr>
<tr>
<td>Taiwan prov.</td>
<td>769897</td>
<td>591387</td>
</tr>
<tr>
<td>Canada</td>
<td>72183</td>
<td>34402</td>
</tr>
<tr>
<td>Indonesia</td>
<td>79965</td>
<td>119981</td>
</tr>
<tr>
<td>Macau</td>
<td>19246</td>
<td>23799</td>
</tr>
<tr>
<td>France</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Australia</td>
<td>18164</td>
<td>15218</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4816</td>
<td>2193</td>
</tr>
<tr>
<td>Belgium</td>
<td>445</td>
<td>2581</td>
</tr>
<tr>
<td>Czech Rep</td>
<td>0</td>
<td>1872</td>
</tr>
<tr>
<td>Germany</td>
<td>966</td>
<td>5077</td>
</tr>
<tr>
<td>Brazil</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Russia</td>
<td>35</td>
<td>0</td>
</tr>
<tr>
<td>Israel</td>
<td>0</td>
<td>77</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1013</td>
<td>363</td>
</tr>
<tr>
<td>Italy</td>
<td>0</td>
<td>869</td>
</tr>
<tr>
<td>Spain</td>
<td>0</td>
<td>295</td>
</tr>
<tr>
<td>U.A.E.</td>
<td>5193</td>
<td>0</td>
</tr>
</tbody>
</table>

SOURCE: China Trade Data

BOTANICAL PRODUCT SPECIFICATIONS
Chrysanthemum Powdered Extract 15:1
a product of China

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>Chrysanthemum Extract Powder 15:1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botanical name</td>
<td>Chrysanthemum × morifolium Ramatuelle (Fam. Asteraceae)</td>
</tr>
<tr>
<td>Pharmacopoeial name</td>
<td>Chrysanthemum Flos Extractum</td>
</tr>
<tr>
<td>Part used</td>
<td>Dried flower</td>
</tr>
<tr>
<td>Cultivated or wild</td>
<td>Cultivated</td>
</tr>
<tr>
<td>Drug-to-extract ratio</td>
<td>15:1 (w/w)</td>
</tr>
<tr>
<td>Extraction solvents</td>
<td>Water and alcohol</td>
</tr>
<tr>
<td>Storage</td>
<td>Store in cool &amp; dry place. Keep away from strong light and heat.</td>
</tr>
<tr>
<td>Packaging</td>
<td>25kg/Fiber drum--Inner double plastic bags</td>
</tr>
<tr>
<td></td>
<td>5kg/Aluminum foil bag--Inner double plastic bags</td>
</tr>
<tr>
<td></td>
<td>1kg/Aluminum foil bag--Inner double plastic bags</td>
</tr>
<tr>
<td>Shelf life</td>
<td>2 years when properly stored.</td>
</tr>
</tbody>
</table>

TESTS

<table>
<thead>
<tr>
<th>Characters</th>
<th>Appearance: brown fine powder; Odor and Taste: characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss on drying</td>
<td>Less than 5.0%</td>
</tr>
<tr>
<td>Sieve analysis</td>
<td>Pass through 80 mesh screen</td>
</tr>
<tr>
<td>Bulk density</td>
<td>45-55g / 100mL</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Soluble in water</td>
</tr>
</tbody>
</table>

SOURCE: China Trade Data
**Foreign matter**
Free of foreign matter

**CONTAMINANTS**

<table>
<thead>
<tr>
<th>Component</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy metals</td>
<td>NMT 20 ppm</td>
</tr>
<tr>
<td>Arsenic</td>
<td>NMT 2 ppm</td>
</tr>
<tr>
<td>Residual solvents</td>
<td>Complies with European Pharmacopoeia 5.4. Residual Solvents</td>
</tr>
<tr>
<td>Total plate count</td>
<td>NMT 1000 cfu/g</td>
</tr>
<tr>
<td>Yeast and Mold</td>
<td>NMT 100 cfu/g</td>
</tr>
<tr>
<td>E. coli</td>
<td>Negative</td>
</tr>
<tr>
<td>Salmonella</td>
<td>Negative</td>
</tr>
</tbody>
</table>

**Source:** Based on product specification published by Jory Herb Ltd: [http://joryherb.com](http://joryherb.com)

**BOTANICAL RAW MATERIALS** (indicative bulk prices)

<table>
<thead>
<tr>
<th>Product</th>
<th>Botanical Name</th>
<th>Cultivated or Wild</th>
<th>Origin</th>
<th>Price / kg</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cassia bark, powdered steam sterilized</td>
<td><em>Cinnamomum aromaticum</em></td>
<td>Cult/Wild</td>
<td>China</td>
<td>7.50 USD</td>
<td>FOB CA</td>
</tr>
<tr>
<td>Cordyceps fungus</td>
<td><em>Cordyceps sinensis</em></td>
<td>Wild</td>
<td>Sichuan</td>
<td>200,000 CNY</td>
<td>Chengdu Market</td>
</tr>
<tr>
<td>Cordyceps fungus</td>
<td><em>Cordyceps sinensis</em></td>
<td>Wild</td>
<td>Tibet</td>
<td>230,000 CNY</td>
<td>Chengdu Market</td>
</tr>
<tr>
<td>Cumin fruit</td>
<td><em>Cuminum cyminum</em></td>
<td>Cultivated</td>
<td>China</td>
<td>4.26 USD</td>
<td>Spot NY</td>
</tr>
<tr>
<td>Garlic bulb</td>
<td><em>Allium sativum</em></td>
<td>Cultivated</td>
<td>China</td>
<td>3.09 USD</td>
<td>Spot NY</td>
</tr>
<tr>
<td>Gastrodia rhizome</td>
<td><em>Gastrodia elata</em></td>
<td>Wild</td>
<td>China</td>
<td>650.00 CNY</td>
<td>Chengdu Market</td>
</tr>
<tr>
<td>Ginger rhizome, whole</td>
<td><em>Zingiber officinale</em></td>
<td>Cultivated</td>
<td>China</td>
<td>26.50 CNY</td>
<td>Chengdu Market</td>
</tr>
<tr>
<td>Ginger rhizome, whole peeled</td>
<td><em>Zingiber officinale</em></td>
<td>Cultivated</td>
<td>China</td>
<td>5.07 USD</td>
<td>Spot NY</td>
</tr>
<tr>
<td>Lycium fruit, whole dried</td>
<td><em>Lycium barbarum</em></td>
<td>Cult/Wild</td>
<td>Ningxia</td>
<td>55.00 CNY</td>
<td>Chengdu Market</td>
</tr>
<tr>
<td>Lycium fruit, whole dried</td>
<td><em>Lycium barbarum</em></td>
<td>Cult/Wild</td>
<td>Xinjiang</td>
<td>50.00 CNY</td>
<td>Chengdu Market</td>
</tr>
<tr>
<td>Senna leaf</td>
<td><em>Cassia angustifolia</em></td>
<td>Cult</td>
<td>China</td>
<td>11.50 CNY</td>
<td>Chengdu Market</td>
</tr>
</tbody>
</table>

**Source:** [http://www.ysindex.com](http://www.ysindex.com)

**Notes:**


**BOTANICAL EXTRACTS** (indicative bulk prices)

<table>
<thead>
<tr>
<th>Product</th>
<th>Standard</th>
<th>Origin</th>
<th>Price per kg</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gotu kola herb extract (Centella asiatica)</td>
<td>20% asiaticosides</td>
<td>China</td>
<td>CNY 750</td>
<td>Guangxi</td>
</tr>
<tr>
<td>Gotu kola herb extract (Centella asiatica)</td>
<td>10% asiaticosides</td>
<td>China</td>
<td>CNY 220-400</td>
<td>Shaanxi/Guangxi</td>
</tr>
<tr>
<td>Gotu kola herb extract (Centella asiatica)</td>
<td>80% asiaticosides</td>
<td>China</td>
<td>CNY 3500-3900</td>
<td>Shaanxi/Guangxi</td>
</tr>
<tr>
<td>Lycium fruit extract (Lycium barbarum)</td>
<td>10% polysaccharides</td>
<td>China</td>
<td>CNY 500</td>
<td>Hubei</td>
</tr>
<tr>
<td>Product</td>
<td>Standard</td>
<td>Origin</td>
<td>Price per kg</td>
<td>Basis</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>------------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>---------</td>
</tr>
<tr>
<td>Lycium fruit extract (Lycium barbarum)</td>
<td>10% polysaccharides</td>
<td>China</td>
<td>CNY 90</td>
<td>Shaanxi</td>
</tr>
<tr>
<td>Milk thistle fruit acetone extract (Silybum marianum)</td>
<td>30% silybin (by UV)</td>
<td>China</td>
<td>CNY 460-480</td>
<td>Panjin Market</td>
</tr>
<tr>
<td>Rhodiola root extract (Rhodiola crenulata)</td>
<td>1% salidroside</td>
<td>China</td>
<td>CNY 95</td>
<td>Shaanxi</td>
</tr>
<tr>
<td>Rhodiola root extract (Rhodiola crenulata)</td>
<td>2% salidroside</td>
<td>China</td>
<td>CNY 140</td>
<td>Shaanxi</td>
</tr>
<tr>
<td>Rhodiola root extract (Rhodiola crenulata)</td>
<td>3% rosavins</td>
<td>China</td>
<td>CNY 520</td>
<td>Shaanxi</td>
</tr>
<tr>
<td>Turmeric rhizome extract (Curcuma longa)</td>
<td>95% curcumin (by UV)</td>
<td>China</td>
<td>CNY 1300</td>
<td>Hebei</td>
</tr>
<tr>
<td>Turmeric rhizome extract (Curcuma longa)</td>
<td>95% curcumin (by HPLC)</td>
<td>China</td>
<td>CNY 1500</td>
<td>Zhejiang</td>
</tr>
</tbody>
</table>

**Source:** China Natural Ingredients Express August 2011

---

**MEETINGS AND TRADE SHOWS**

**CHINA & OTHER EASTERN ASIAN COUNTRIES**

**September 4-9, 2011**

5th INTERNATIONAL SEABUCKTHORN ASSOCIATION CONFERENCE (ISA 2011)

**Developing Seabuckthorn: For the Harmonious Ecosystem & Healthy Life**

**Venue:** Qinghai Conference Centre, Xining, Qinghai Province, PRC

**Organizers:** International Seabuckthorn Association (ISA) & Qinghai Provincial Government

**Sponsors:** Commerce Department of Qinghai Province, PRC, Chamber of Commerce, Qinghai Province, Qinghai Tsinghua Biotry Bio-Tech Co., Ltd.

**Contact:** ISA Secretariat: Dr. Xia Jingfan

**TEL:** 86 10 63204363 / **FAX:** 86 10 63204359

**E-MAIL:** isahome@163.com

**WEB:** [http://www.isahome.net](http://www.isahome.net)

**September 7-9, 2011**

VITAFOODS ASIA, THE GLOBAL NUTRACEUTICAL EVENT

**Venue:** AsiaWorld-Expo, Hong Kong

**Organizers:** IIR Exhibitions ([www.informa.com](http://www.informa.com))

**Contact:** TEL: +44 (0)20 7017 7036

**E-MAIL:** clee@iirx.co.uk

**WEB:** [http://vitafoodsasia.com](http://vitafoodsasia.com)

**Exhibitor profile:** Suppliers of: Nutraceutical ingredients, Functional foods and drinks, Pharmaceutical ingredients, Botanical extracts, Nutricosmetics, Contract manufacturing services, Consultancy, regulatory and marketing services.

**September 7-27, 2011**

INTERNATIONAL TRAINING WORKSHOP ON INTEGRATED SUSTAINABLE DEVELOPMENT IN MOUNTAIN AREAS AND NON-TIMBER-FOREST-PRODUCTS (NTFPS) INDUSTRIAL AND COMMERCIAL DEVELOPMENT

**Venue:** Zhejiang Province, China

**Organizers:** MOST, International Network for Bamboo and Rattan (INBAR), Lin’an Modern Forestry Technology Service Center (LMFTSC).

**Contact:** Zhu Zhaohua, Jin Wei, Coordinator.

**TEL:** 86 10 64706161 ext. 310 / **FAX:** 86 10 64703166

**EMAIL:** zzh@inbar.int, Wjin@inbar.int


**Conference topics:**

- Sustainable development of Economy in mountainous regions
• Poverty alleviation in mountainous regions
• Mountain forest sustainable management
• Sustainable management, industrialization and commercialization of NTFPs
• NTFPs in China and their development, industrialization and commercialization
• "Company + farmers" – the best model for NTFPs industrialization
• Cultivation and processing technologies of wild medicinal plants and edible/medicinal fungus
• Industrial cooperation and NGOs are the links among companies, markets and farmers

Field visit program will be arranged in combination with the indoor courses during the workshop. During the workshop, 70% of the time will be for field visit. This workshop will give introduction to NTFPs development experiences of China, especially on the aspects of industrialization and commercialization. The participants will also be able to see the development and utilization of the local medicinal plants, the cultivation of edible and medicinal fungus and China's biggest honey industry base – Tonglu.

September 20-22, 2011
THE 1ST INDONESIAN SPICES CONGRESS 2011 (ISC)
Venue: Pendopo Agung Sasono Utomo, Taman Mini Indonesia Indah – Jakarta, Indonesia
Organizer: Bimatama Inka
E-MAIL: dri_indonesia2007@yahoo.com, bimatama_inka@yahoo.com
WEB: www.indonesian-spices.com

This event aims to increase international trade of Indonesian spice commodities as well as the development of world spice trade and increase awareness of sustainable spice trade by 2015. Attended by European and Asian spice importers organizations, exporters, producer, food and beverage industry, cosmetic industry, spa industry.

September 29 – October 2, 2011
HERBAL AND HEALTH FOOD INDONESIA 2011
CO-LOCATED WITH INTERFOOD INDONESIA 2011
Venue: Jakarta International Exhibition Centre, Kemayoran, Jakarta, Jakarta Raya, Indonesia
Organizer: Krista Media Pratama PT, Krista Exhibitions, Jln. Blandongan 28 DG, Jakarta
TEL: + (62) (21) 6345861 / 6345862 / 6334581 / 6345002
FAX: + (62) (21) 6340140 / 6342113
EMAIL: info@kristamedia.com
WEB: http://www.interfood-indonesia.com

Exhibitor profile: Suppliers of medicinal plants & extracts, herbs and spices, essential oils and oleoresins, aromas and flavors, fruit and vegetable products, organic ingredients, seasonings, soy products, starches, sweeteners, vitamins and minerals, and more.

October 5-7, 2011
HEALTH INGREDIENTS (Hi) JAPAN 2011
Venue: Tokyo Big Sight Exhibition Center, West Halls 1.2& Atrium, Japan
Supported by: Ministry of Agriculture, Forestry and Fisheries, Ministry of Health, Labour and Welfare, Japan External Trade Organization (JETRO), Tokyo Metropolitan Government, Japan Health & Nutrition Food Association
Organizer: United Business Media (UBM) International
Contact: Mr. Takuro Azuma, UBM, Kanda 91 bldg, 1-8-3 Kajicho, Chiyodaku, Tokyo 101 0044 Japan / TEL: +81 3 5296 1017 / FAX: +81 3 5296 1018
E-MAIL: f-expo@cmpjapan.com
WEB: http://www.hijapan.info/eng/index.php

October 22-23, 2011
SHANGHAI INTERNATIONAL CONFERENCE ON TRADITIONAL CHINESE MEDICINE AND NATURAL MEDICINE
Venue: Shanghai Jumeirah Himalayas Hotel, Shanghai, China
Organizers: Modern Biotechnology & Pharmaceutical Industry Office of Shanghai Municipality
October 27-30, 2011
3rd ANNUAL CHINA NATURAL INGREDIENT CONFERENCE 2011: Controllable and Sustainable
Venue: Inner Mongolian Grand Hotel, Beijing China
Organizers: CCCMHPIE Org., Herbridge Media
Sponsors: Xi An Haotian, JL Stevia, Honsea
Contact: Gloria Zhang TEL: 86 010 89709801 / FAX: 86 010 89709801
E-MAIL: herbridge@vip.163.com
WEB: www.herbridge.com

The goal of this event is to enhance the exchange of information in natural ingredients industry, optimize Chinese herb extract industry development, promote development of Chinese nutrition industry and recommend broader reliable cooperation resources. Participant will include manufactures, traders and purchasers.

November 1-3, 2011
BIO-FACH WORLD TRADE FAIR FOR ORGANIC FOOD AND NATURAL PRODUCTS
Venue: The Tokyo International Exhibition Center (Tokyo Big Sight), West Hall 4, Tokyo
Patron: International Federation of Organic Agriculture Movements (IFOAM)
Supported by: Japan Self-Service Ass., Japan Retailers Association, Japan Chain Stores Ass., Nihon Wellness Movement, Organic Cotton Association.
Contact Nürnberg Global Affairs GmbH; Mrs. Miriam Stahel TEL: +49 (0)9 11.8606-86 92 / FAX: +49 (0)9 11.86.06-86 94
E-MAIL: biofach@ngfmail.com
WEB: www.biofach-japan.com

Although the BIO-FACH trade show is primarily for buyers & sellers of certified organic finished products, there will be many exhibitors of bulk botanical raw materials and extracts.

November 2-4, 2011
IN-COSMETICS ASIA
Venue: BITEC, Bangkok Thailand
Organizer: Reed Exhibitions, part of Reed Elsevier
Contact: TEL: +44 (0) 20 8910 7847 / FAX: +44 (0) 20 8910 7926
E-MAIL: incosasiatteam@reedexpo.co.uk
WEB: http://www.in-cosmeticsasia.com

This trade show is for cosmetic manufacturers, formulators, scientists and sales & marketing experts. There will be exhibitors of natural botanical ingredients used in cosmetic products.

November 15-18, 2011
INTERNATIONAL SYMPOSIUM ON MEDICINAL AND AROMATIC PLANTS
Venue: Chiang Mai, Thailand
Organizers/Sponsors: International Society for Horticultural Science (ISHS), Horticultural Science Society of Thailand (HSST), Department of Agriculture (DOA), Kasetsart University
(KU), Chiang Mai University (CMU), Maejo University (MU), Thailand Research Fund (TRF).

Contact: Peyanoot Naka, Secretary (Horticultural Research Institute), Chatuchak Bangkok 10900 Thailand.
TEL: 66 2 579 8553, 940 5484 5 ext.117 / FAX: 66 2 561 4667
E-MAIL: Peyanoot@hotmail.com, royalflorasymposium2011@yahoo.com

Conference Topics: World production and marketing, genetic resources and breeding, biotechnology, cultural practices and physiology, plant protection, post-harvest technology, processing and processed products, health potential of tropical and sub-tropical, fruits production potential of MAP, spa and aromatherapy, cosmetic role of MAP, industrial production of pharmaceutical and nutraceutical products, industrial production of essential oil.

November 22-23, 2011
BIO MALAYSIA 2011
Venue: Kuala Lumpur Convention Centre, Malaysia
Organizer: Protemp Exhibitions Sdn Bhd
Contact: TEL: +603 6140 6666 / FAX: +603 6140 8833
E-MAIL: karendass@protempgroup.com
WEB: http://www.biomalaysia.com.my

Exhibitor profile: Agriculture, Biofuels, Bioactive therapeutics, Cosmetics, Drug discovery & development, Environmental technologies, Herbal products, Nutraceuticals and more.

November 22-26, 2011
39TH SESSION & OTHER MEETINGS OF THE INTERNATIONAL PEPPER COMMUNITY (IPC)
Venue: Santosa Villas and Resort Hotel, Senggigi Beach, Lombok Island, Indonesia
TEL: 62-21 384-0139, 3858171-5 #1106 / FAX: 62-21 3840139
E-MAIL: Edward_indonesia2005@yahoo.co.id, istiati_hendra@yahoo.co.id
WEB: http://www.ipcnet.org/session39id/index.php

This event will host several meetings including: the Executive Meeting of Heads of Delegation, The Peppertech meeting, the meeting of Pepper Exporters’, The Pepperexim Meeting, Meeting of IPC Committee on quality, plenary sessions and an Exhibition.

May 13-15, 2012
ASIAN AROMA INGREDIENTS CONGRESS & EXPO (AAIC) 2012
Venue: Grand Hyatt, Nusa Dua, Bali
Organizer: Dewan Atsiri Indonesia, Indonesian Essential Oil Council
WEB: http://www.aaic2012.com

May 24-26, 2012
BIO-FACH CHINA 2011, WORLD TRADE FAIR FOR ORGANIC FOOD AND NATURAL PRODUCTS
Venue: INTEX Shanghai, China
Patron: International Federation of Organic Agriculture Movements (IFOM)
Contact: Nurnberg Global Affairs GmbH; Mrs. Miriam Hempel
TEL: +49 (0)9 11.8606-86 92 / FAX: +49 (0)9 11.86.06-86 94
E-MAIL: biofach@nuernbergmesse.de
WEB: http://www.biofach-china.com
Although the BIO-FACH trade show is primarily for buyers & sellers of certified organic finished products, there will be many exhibitors of bulk botanical raw materials and extracts.

**August, 2012 (dates to be determined)**

**INTERNATIONAL CONFERENCE AND EXHIBITION OF THE MODERNIZATION OF CHINESE MEDICINE AND HEALTH PRODUCTS 2010**

**Concurrent Event:** Hong Kong International Tea Fair

**Venue:** Hong Kong Convention and Exhibition Centre, 1 Expo Drive, Wan Chai, Hong Kong (Harbour Road Entrance)

**Organizers:** Hong Kong Trade Development Council, Modernized Chinese Medicine International Association Ltd (MCMIA)

**WEB:** [http://gbcode.hktdc.com/uniS/icmcm.hktdc.com](http://gbcode.hktdc.com/uniS/icmcm.hktdc.com)

**Exhibitor profile:** Suppliers of medicinal plants & extracts, traditional Chinese medicinal products, health supplements, and trade associations.

**September 5-7, 2012**

**VITAFOODS ASIA 2012, THE GLOBAL NUTRACEUTICAL EVENT**

**Venue:** AsiaWorld-Expo, Hong Kong

**Organizers:** IIR Exhibitions ([www.informa.com](http://www.informa.com))

**Contact:** TEL: +44 (0)20 7017 7036

**EMAIL:** lynnor.wong@informa.com

**WEB:** [http://vitafoodsasia.com](http://vitafoodsasia.com)

**Exhibitor profile:** Suppliers of: Nutraceutical ingredients, Functional foods and drinks, Pharmaceutical ingredients, Botanical extracts, Nutricosmetics, Contract manufacturing services, Consultancy, regulatory and marketing services.

**October 3-5, 2012**

**FOOD INGREDIENTS ASIA INDONESIA 2012**

**Venue:** Jakarta International Expo, Arena PRJ Kemayoran, Jakarta, Indonesia

**Organizer:** The Indonesian Food Technologist Association (PATPI), The Department of Food Science and Technology (FST), Southeast Asian Food and Agricultural Science and Technology (SEAFAST) Center IPB.

**Contact:** Secretariat of International Seminar 2010, Attn: Gitapratiwi & Virna Berliani Putri.

**E-MAIL:** patpiseminar2010@yahoo.com

**WEB:** [http://fiasia.ingredientsnetwork.com/conference](http://fiasia.ingredientsnetwork.com/conference)

**Exhibitor profile:** Though mainly a show with suppliers of food ingredients, some of the exhibitors offer natural botanical ingredients made from medicinal and aromatic plants. Exhibitors of botanical ingredients will include Chengdu Root Industry Co., Ltd., Mafco, Naturex among others.
PRODUCTION AND TRADE OF LAVENDER FLOWER FROM EUROPEAN COUNTRIES

European countries are the world’s largest producers and exporters of the herbal drug Lavender flower and value-added lavender preparations including essential oil and extracts. The main producers are the Republic of Bulgaria, Republic of Albania, and French Republic but also the Italian Republic, Hellenic Republic, Kingdom of Spain, and the United Kingdom of Great Britain and Northern Ireland. English lavender preparations are used as active components of herbal medicinal products, aromatherapy and balneotherapy products, and cosmetic products.

Botanical name:  
Lavandula angustifolia P. Mill. (Family: Lamiaceae)

Common names:  
Bulgarian: Лавандула, цвят  
English: English lavender flower (USA); Lavender flower (EU)  
French: Fleur de lavande  
German: Lavendelblüten  
Hungarian: Levendulavirág  
Romanian: floare de levănțică  
Spanish: Flor de lavanda

Pharmacopoeial names: Lavandulae flos (flower); Lavandulae aetheroleum (essential oil)

Definitions
- Lavender flower PhEur is the dried flower of Lavandula angustifolia P. Mill. (L. officinalis Chaix) containing minimum 13 ml / kg essential oil (anhydrous drug).
- Lavender Oil PhEur is the essential oil obtained by steam distillation from the flowering tops of Lavandula angustifolia P. Mill. (L. officinalis Chaix).
- Oil of Lavender ISO 3515:2002 specifies characteristics of the oils of spontaneous lavender (population lavender, France) and of clonal lavender (Lavandula angustifolia Mill.), from various origins.

Harmonized System Tariff Codes (HS Codes)

- HS 1211.90 (WCO)  Lavender flower
- HS 3301.23.00 (ITC-HS)  Essential oil of lavender or lavandin
- HS 3301.29.5118 (HTSUS) Essential oil of lavender or lavandin

Native Habitat
European Mediterranean region.

Main Producing Areas

Republic of Bulgaria, Republic of Albania, and French Republic but also the Italian Republic, Hellenic Republic, Kingdom of Spain, and the United Kingdom of Great Britain and Northern Ireland.

According to the European Herb Growers Association (Europam), there are nearly 4,000 ha of English lavender flower cultivation in Bulgaria and about 4,500 ha in France. According to Kathe et al (2003), there are about 400 ha of lavender cultivation in Albania, 105 ha in Bosnia and Herzegovina, and it is also one of the most important cultivated MAP crops in Republic of Croatia (on the Island of Hvar). Outside of Europe there is also commercial production in the People’s Republic of China (Xinjiang Uyghur Autonomous Region), the Republic of South Africa, and in the United States of America (Pacific Northwest).

47 European Herb Growers Association: http://www.europam.net
Quality Standards
Before exporting, it is important to understand the quality standards that may be required by the buyers in the destination market. There are quality standards available for Lavender Flower and Lavender Oil published in the European Pharmacopoeia. There are also specifications for Lavender Oil available in the Food Chemicals Codex (FCC) and from the International Organization for Standardization (ISO).

Therapeutic uses
The European Medicines Agency (EMA) has published draft labeling standards monographs for the use of lavender flower and essential oil as active substances of registered Traditional Herbal Medicinal Products (THMPs) for marketing authorization in the European Union:

- **Lavender Essential Oil EMA:** Traditional herbal medicinal product (THMP) prepared in liquid dosage form for oral use and as a bath additive for relief of mild symptoms of mental stress and exhaustion and to aid sleep.\(^4^9\)
- **Lavender Flower EMA:** Traditional herbal medicinal product (THMP) prepared as an Herbal Tea or Tincture (1:5) for oral use for relief of mild symptoms of mental stress and exhaustion and to aid sleep.\(^5^0\)

Cosmetic uses
Lavender ingredients that are used in cosmetics are defined in the European Commission Cosmetic Ingredients & Substances (CosIng) Database:\(^5^1\)

- **Lavandula Angustifolia Herb Extract** is an extract obtained from the flowering herbs of the Lavender, *Lavandula angustifolia*, Labiatae. Functions: Perfuming.
- **Lavandula Angustifolia Extract** is the extract of the whole plant of the Lavender, *Lavandula angustifolia*, Labiatae. Functions: Skin conditioning.
- **Lavandula Angustifolia Flowers** are the dried flowers obtained from the Lavender, *Lavandula angustifolia*, Labiatae. Functions: Skin Conditioning.
- **Lavandula Angustifolia Flower Cera** is a wax obtained from the flower of the Lavender, *Lavandula angustifolia*, Labiatae Functions: Emollient; Skin conditioning.
- **Lavandula Angustifolia Flower Extract** is an extract of the flowers of the Lavender, *Lavandula angustifolia*, Labiatae. Functions: Cleansing; Deodorant; Masking; Refreshing; Tonic.
- **Lavandula Angustifolia Flower Powder** is the product obtained from the crushed, dried flowers of the Lavender, *Lavandula angustifolia*, Labiatae. Functions: Skincare.
- **Lavandula Angustifolia Flower Water** is an aqueous solution of the steam distillate obtained from the flowers of the Lavender, *Lavandula angustifolia*, Labiatae. Functions: Skin conditioning.
- **Lavandula Angustifolia Flower/Leaf/Stem Extract** is the extract of the flowers, leaves and stems of the Lavender, *Lavandula angustifolia*, Labiatae. Functions: Flavouring; Masking; Oral Care; Perfuming; Skin conditioning.
- **Lavandula Angustifolia Leaf Cell Extract** is the extract of a culture of the leaf cells of the Lavender, *Lavandula angustifolia*, Labiatae. Functions: Flavouring; Masking; Perfuming; Skin protecting.

---


- **Lavandula Angustifolia Oil** is the volatile oil obtained from the flowers of the Lavender, *Lavandula angustifolia*, Labiatae. ISO 8902:2009. Functions: Masking; Tonic.
- **Lavandula Angustifolia Water** is an aqueous solution of the steam distillate obtained from the Lavender, *Lavandula angustifolia*, Labiatae. Functions: Masking.

**Production Scenario**

Info for cultivation and production of Lavender flower and oil is available from the following sources:


### BOTANICAL PRODUCT SPECIFICATION

_Lavender Flower_

*a product of Bulgaria, Albania, France, Bosnia & Herzegovina, Croatia and other European Countries*

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>Lavender flower 52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botanical name</td>
<td><em>Lavandula angustifolia</em> P. Mill. (<em>L. officinalis</em> Chaix)</td>
</tr>
<tr>
<td>Pharmacopoeial name</td>
<td>Lavandulae flos PhEur</td>
</tr>
<tr>
<td>Part used</td>
<td>Dried flower</td>
</tr>
<tr>
<td>Cultivated or wild</td>
<td>Cultivated</td>
</tr>
<tr>
<td>Storage</td>
<td>Store protected from moisture</td>
</tr>
</tbody>
</table>

#### IDENTIFICATION

| Characters | Strongly aromatic odour. |
| Macroscopic | PhEur Lavender Flower Monograph ID Test A |
| Microscopic | PhEur Lavender Flower Monograph ID Test B |
| Thin-layer chromatography | PhEur Lavender Flower Monograph ID Tests C & D (PhEur 2.2.27) |

#### TESTS

| Foreign matter | Maximum 3% of stems and maximum 2% of other foreign matter (PhEur 2.8.2) |
| Other species and varieties of lavender | Maximum 1% camphor in the essential oil as determined by Gas Chromatography test in Lavender flower PhEur monograph (PhEur 2.2.28) |
| Water | Maximum 100 ml/kg (PhEur 2.2.13) |
| Total ash | Maximum 9.0% (PhEur 2.4.16) |

#### CONTAMINATION

| Aerobic bacteria | $10^7$ cfu/g |
| Moldes and yeasts | $10^7$ cfu/g |
| *Escherichia coli* | $10^7$ cfu/g |
| *Salmonella* | Not detected |
| Heavy metals | NMT 1.0 ppm cadmium |
| | NMT 5.0 ppm lead |
| | NMT 0.1 ppm mercury |
| Pesticide residues | Meets the requirements PhEur General Chapter 2.8.13 |

### BOTANICAL EXTRACTS (Indicative bulk prices)

<table>
<thead>
<tr>
<th>Product</th>
<th>Standard</th>
<th>Price USD/kg</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilberry fruit extract <em>(Vaccinium myrtillus)</em></td>
<td>25% anthocyanins</td>
<td>700-800</td>
<td>FOB USA</td>
</tr>
<tr>
<td>Ginkgo leaf dry extract <em>(Ginkgo biloba)</em></td>
<td>min 24% ginkgoflavoneglycosides; 2.6-3.2% bilobalide; 2.8-3.4% ginkgolides A, B &amp; C</td>
<td>175-275</td>
<td>FOB USA</td>
</tr>
<tr>
<td>Maritime pine dry extract <em>(Pinus pinaster)</em></td>
<td>65% procyanidins</td>
<td>1500-3500</td>
<td>FOB USA</td>
</tr>
<tr>
<td>Milk thistle fruit dry extract <em>(Silybum marianum)</em></td>
<td>min. 80% silymarin calculated as silybin</td>
<td>75-150</td>
<td>FOB USA</td>
</tr>
<tr>
<td>Nettle root dry extract <em>(Urtica dioica)</em></td>
<td>min 30 ppm scopoletin, min 0.8% ß-sitosterol</td>
<td>65-85</td>
<td>FOB USA</td>
</tr>
<tr>
<td>St. John’s wort herb dry extract <em>(Hypericum perforatum)</em></td>
<td>min. 0.3% hypericins expressed as hypericin, 1.0-4.0% Hyperforin</td>
<td>30-55</td>
<td>FOB USA</td>
</tr>
<tr>
<td>Valerian root dry extract <em>(Valeriana officinalis)</em></td>
<td>min 0.8% valerenic acid</td>
<td>60-75</td>
<td>FOB USA</td>
</tr>
</tbody>
</table>

**Notes:**

**Quality Standards:** Monographs providing quality standards and tests for most all of the above listed herbs can be found either in the European Pharmacopoeia (PhEur) or United States Pharmacopeia – National Formulary (USP-NF).

### MEETINGS AND TRADE SHOWS

**EUROPEAN COUNTRIES**

**September 25-29, 2011**

**THE 6TH INTERNATIONAL MEDICINAL MUSHROOM CONFERENCE, IMMC6**

**Venue:** Zagreb, Croatia

**Organizer:** Dr. Myko San – Health from Mushrooms Co., University of Zagreb, Croatia – Faculty of Agriculture, Faculty of Food Technology and Biotechnology, Faculty of Forestry, Croatian Society of Food Technologists and Nutritionists.

**Contact:** Dr Myko San, Miramaraska 109, 10000 Zagreb, Croatia NA 385

**E-mail:** immc6.loc@gmail.com

**WEB:** http://www.immc6.com

**October 8-12, 2011**

**ANUGA**

**Venue:** Cologne Exhibition Center, Germany

**Organizer:** Koelnmesse GmbH, Messeplatz 1, 50679 Köln, Germany & Bundesverband des Deutschen Lebensmittelhandels e.V. (BVL), Am Weidendamm 1A, 10117 Berlin

**Contact:** Dietmar Eiden, TEL: +49 221 821 2240 / FAX: +49 221 821 3410

**E-MAIL:** d.eiden@koelnmesse.de or bvl@einzehandel.de

**WEB:** http://www.anuga.com

Although primarily a food show there will be some exhibitors of natural botanical ingredients at Anuga.

**October 10-12, 2011**

**ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS (AOAC) EUROPE INTERNATIONAL WORKSHOP: Quality Control of Botanicals, TCM, Herbal Food Supplements and Herbal Medicinal Products**

**Venue:** University of Erlangen-Nuremberg

**Organizer:** PhytoLab GmbH and the Working Group Separation Science of the German Chemical Society

**Contact:** Dr. Klaus Reif, c/o PhytoLab GmbH & Co. KG, AOAC Europe Executive Committee Dutendorfer Str.: 5-7, D-91487 Vestenbergsgreuth

**E-MAIL:** klaus.reif@phytolab.de
October 15-17, 2011
NATExpo Trade Show
Venue: Paris Nord Villepinte, Hall 8, France
Organizers: Federation Francaise de la Dietetique & Comexpo Paris
Contact: Roger Serrault, Fair Chairman; TEL/FAX: +33 (0)1 47 75 03 09
E-MAIL: info@federation-dieteBio.org
WEB: http://www.natexpo.com

Exhibitor Profile: While mainly an expo for finished products, there will also be a suppliers’ marketplace for exhibitors of raw materials, processing and packaging.
Visitor profile: Natural product manufacturers, wholesalers, distributors, organic and health food retailers, medical professionals, import-export representatives.

October 19-21, 2011
Cosmethica: International Congress on Raw Materials in Cosmetics
Venue: Palais des Congrès, 22, Cours Honoré Cresp - 06130 GRASSE France
Contact: Geneviève Juge, Organising Committee
TEL: +33 (0)4 92 42 34 08 / FAX: +33 (0)4 92 42 34 01
E-MAIL: contact@cosmethica-grasse.com
WEB: http://www.cosmethica-grasse.com

October 25-27, 2011
CPhI Worldwide
Venue: Messe Frankfurt, Germany
Organizer: UBM Information Ltd
Contact: TEL: +31 20 40 99 544 / FAX: +31 20 36 32 616
E-MAIL: cphi@ubm.com
WEB: http://www.cphi.com

CPhI Exhibitors of medicinal plants & extracts include, among others:
- Burgundy Botanical Extracts http://www.burgundy-extracts.com
- Finzelberg GmbH & Co. KG http://www.finzelberg.de
- Gehrlicher GmbH http://www.gehrlicher.de
- Indena SpA http://www.indena.com
- Linnea SA http://www.linnea-worldwide.com
- Naturex http://www.naturex.com

November 6-10, 2011
IFeat 2011 Conference: Bridging Continents and Cultures
Venue: Barcelona, Spain
Organizer: The International Federation of Essential Oils and Aroma Trades (IFAT), 9 Lincoln’s In Fields, London, WC2A 3BP, UK.
Contact: TEL: +44 (0) 20 7814 9666 / FAX: +44 (0) 20 7814 8383
E-MAIL: events@ifeat.org
WEB: http://www.ifeat.org

November 9-12, 2011
Maps (Medicinal and Aromatic Plants) 2011
Medicinal and aromatic plants in generating new values in 21st century
Venue: Academy of Sciences and Arts of Bosnia and Herzegovina, Sarajevo, Bosnia and Herzegovina
Contact: Chairman Sulejman Redžić, Bistrik 7, 71 000 Sarajevo, Bosnia and Herzegovina.
TEL: +387 33 210 902 / FAX: +387 33 206 033
E-MAIL: mplants@yahoo.com, sredzic@anubih.ba
WEB: http://www.map-sarajevo.com
Themes: Cultivation, Sustainable Use and Conservation, International Trade of MAPs, Economy of Herbal Sector

November 29 – December 1, 2011
FOOD INGREDIENTS EUROPE & NATURAL INGREDIENTS 2011
Venue: Paris Nord Villepinte, Paris, France
Contact: UBMi BV, P.O. Box 12740, 1100 AS Amsterdam Z.O.
TEL: +31 (0) 20 40 99 544 / FAX: +31 (0) 20 36 32 616
E-MAIL: Fieurope@ubm.com
WEB: http://fieurope.ingredientsnetwork.com

February 15-18, 2012
BIO-FACH WORLD TRADE FAIR FOR ORGANIC FOOD AND NATURAL PRODUCTS
Venue: Exhibition Centre Nuremberg, Germany
Patron: International Federation of Organic Agriculture Movements (IFOAM)
TEL: +49 (0)9 11.8606-0 / FAX: +49 (0)9 11.86.06-82-28
Organizer: NürnbergMesse GmbH, Messezentrum D-90471 Nürnberg
E-MAIL: biofach@nuernbergmesse.de
WEB: http://www.biofach.de

Although the BIO-FACH trade show is primarily for buyers & sellers of certified organic finished products, there will be many exhibitors of bulk botanical raw materials and extracts.

October 4-5, 2012
2nd EUROPEAN WORKSHOP ON SEA BUCKTHORN
Venue: Vilnius, Lithuania
Organizers: German Society for Seabuckthorn and Wild Fruits; Lithuanian Association of Seabuckthorn growers
WEB: http://www.sanddorn.net

November 13-15, 2012
HEALTH INGREDIENTS EUROPE & NATURAL INGREDIENTS 2012
Venue: Messe Frankfurt, Germany
Organizer: CMP Information, a division of United Business Media
Contact: CMP Information, PO Box 200, 3600 AE Maarssen, the Netherlands
TEL: + 31 346 559 444 / FAX: + 31 346 573 811
E-MAIL: Fi@cmpi.biz
WEB: http://hieurope.ingredientsnetwork.com

Exhibitor profile: Companies that cultivate, extract, process or supply health, nutraceuticals, organic and functional ingredients, and natural ingredients that are used in cosmetics, health food products, medicinal herbal products, and nutraceutical products.

2013 (dates to be determined)
6th INTERNATIONAL SEABUCKTHORN ASSOCIATION CONFERENCE (ISA 2011)
Venue: Potsdam, Germany
Organizers: International Seabuckthorn Association (ISA)
Sponsors: Ministry of Infrastructure and Agriculture of the Government of Brandenburg (MIL)
E-MAIL: isa-2013@sanddorn.net
WEB: http://www.isahome.net
The Republic of India is the world's leading producer and consumer of rauwolfia root with estimated annual domestic consumption ranging from 200,000 to 500,000 kg. Rauwolfia root, which is mainly wild harvested but also produced somewhat from cultivated sources, is used in the Ayurvedic, Siddha and Unani systems of medicine, as well as in folk medicine and homoeopathic medicine. It is listed in Appendix II of CITES, which means that it is a species that is not necessarily now threatened with extinction but that may become so unless trade is closely controlled. Export permits are granted if the relevant authorities are satisfied that certain conditions are met, above all that trade will not be detrimental to the survival of the species in the wild. As such, there is presently very little export trade and mainly domestic consumption. Only the Kingdom of Thailand and the Republic of India export small amounts of the root predominantly to the Federal Republic of Germany where it is value-added (standardized extracts) and either used as a pharmaceutical active ingredient in Germany or re-exported, mainly to the Swiss Confederation.

**Definition**

The whole or cut dried roots of *Rauwolfia serpentina* (L.) Bentham ex Kurz. (Fam. Apocynaceae).

**Common names:**

- Bangladesh: Sarpagandha, Chhoto Chadar, Chhoto Chand, Chandra  
- Bhutan: nakhbel, sarpagandah  
- China: 蛇根木 (she gen mu)  
- Germany: Rauwolfia wurzel  
- India: Asrol (root) (UPI V); Sarpagandha (root) (API V)  
- Korea: 인도사목 (in do sa mu)  
- Nepal: चाँद मस्त्रा, सेप गंग्न, Chand maruwa, Sarpa gandha  
- Pakistan: Chhota Chand, Asrol  
- Vietnam: ba gac hoa do

**Pharmacopoeial name:** Rauwolfiae radix

**Harmonized System Tariff Codes (HS Codes)**

1211.9044 (Indian Trade Classification) Serpentina Roots

**Native Habitat and Distribution**

Distributed in the Sub-Himalayan tract from Punjab eastwards to Nepal, Sikkim, Bhutan, Assam, in the lower hills of the Gangetic plains, Eastern and Western Ghats, in some parts of Central India and in the Andaman Islands. Outside of India, it occurs in Bangladesh, Bhutan, China, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, and Viet Nam. In China it occurs in montane forests between 800-1500 m altitude in Southern Yunnan (Gengma, Jing-hong) and is also cultivated in Southern Guangdong, Southern Guangxi, and Hainan Provinces.

---

56 Deutsches Arzneibuch (DAB 1999)
57 Unani Pharmacopoeia of India (UPI Volume V)
58 Ayurvedic Pharmacopoeia of India (API Volume V)
59 Korean Herbal Pharmacopoeia (KHP 2002)
63 Indian Herbal Pharmacopoeia Revised New Edition 2002
64 CITES Species Database: [http://www.cites.org/eng/resources/species.html](http://www.cites.org/eng/resources/species.html)
Main Producing Areas
Republic of India is the main producing and consuming country. The major supply source of wild harvested roots is from tropical forest areas. Thailand is also an exporter of wild harvested roots and there is significant trade reported in Myanmar.

Therapeutic Uses
The principal use today is in the treatment of mild essential hypertension. Treatment is usually administered in combination with a diuretic agent to support the drug's antihypertensive activity, and to prevent fluid retention which may develop if Radix Rauwolfiae is given alone. Dose; Powder, 200 mg daily in divided doses for 1–3 weeks; maintenance 50–300 mg daily. Doses of other preparations should be calculated accordingly. Doses of Radix Rauwolfiae should be based on the recommended dosage of rauwolfia alkaloids, which must be adjusted according to the patient's requirements and tolerance in small increments at intervals of at least 10 days. Debilitated and geriatric patients may require lower dosages of rauwolfia alkaloids than do other adults. Rauwolfia alkaloids may be administered orally in a single daily dose or divided into two daily doses.

Quality Standards
Before trading it is important to understand the various defined quality grades and standards that buyers may specify. There are pharmacopoeial monographs published in the Ayurvedic Pharmacopoeia of India (API) and Unani Pharmacopoeia of India (UPI) as well as in the German Pharmacopoeia (DAB), Korean Herbal Pharmacopoeia (KHP) and United States Pharmacopoeia (USP). Table 1 compares these standards, which can be used as the basis of quality specifications for test and release of rauwolfia root as an active ingredient.

Table 1: Comparison of Rauwolfia root Quality Standards

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification tests:</td>
<td>Macroscopic</td>
<td>Macroscopic</td>
<td>Macroscopic</td>
<td>Macroscopic</td>
<td>Macroscopic</td>
</tr>
<tr>
<td></td>
<td>Microscopic</td>
<td>Microscopic</td>
<td>Microscopic</td>
<td>Microscopic</td>
<td>Histology</td>
</tr>
<tr>
<td></td>
<td>Thin-layer chromatography</td>
<td>Thin-layer chromatography</td>
<td>Color reaction test</td>
<td>Thin-layer chromatography</td>
<td>Chemical ID by chromatography</td>
</tr>
<tr>
<td>Loss on Drying</td>
<td>No standard</td>
<td>NMT 12.0%</td>
<td>No standard</td>
<td>No standard</td>
<td>NMT 12.0%</td>
</tr>
<tr>
<td>Foreign matter</td>
<td>NMT 2.0%</td>
<td>NMT 2.0% of stems and NMT 3.0%</td>
<td>NMT 2.0% of branches and NMT 0.5%</td>
<td>NMT 2.0%</td>
<td>NMT 2.0% of stems and NMT 3.0% of other foreign organic matter</td>
</tr>
<tr>
<td>Total ash</td>
<td>NMT 8.0%</td>
<td>NMT 10.0%</td>
<td>No standard</td>
<td>NMT 8.0%</td>
<td>No standard</td>
</tr>
<tr>
<td>Acid-insoluble ash</td>
<td>NMT 1.0%</td>
<td>NMT 2.0%</td>
<td>No standard</td>
<td>NMT 1.0%</td>
<td>NMT 2.0%</td>
</tr>
<tr>
<td>Alcohol-soluble extractive</td>
<td>NLT 4.0%</td>
<td>No standard</td>
<td>No standard</td>
<td>NLT 4.0%</td>
<td>No standard</td>
</tr>
<tr>
<td>Water-soluble extractive</td>
<td>NLT 10.0%</td>
<td>No standard</td>
<td>No Standard</td>
<td>NLT 10.0%</td>
<td>No standard</td>
</tr>
<tr>
<td>Content</td>
<td>Indole alkaloids present: reserpine, serpentinine and ajmalicine</td>
<td>NLT 1.0% of total alkaloids, calculated as reserpine (C33H40O3N2, M. 609)</td>
<td>NLT 0.8% of total alkaloids [reserpine (C33H40N2O9]: 608.69]</td>
<td>Indole alkaloids present: reserpine, serpentinine and ajmalicine</td>
<td>NLT 0.15% of reserpine-rescinnamine group alkaloids, calculated as reserpine</td>
</tr>
</tbody>
</table>

LEGEND
API V Ayurvedic Pharmacopoeia of India, Part I, Volume V
DAB Pharmacopoeia of Germany 1999
KHP Korean Herbal Pharmacopoeia 2002
UPI V Unani Pharmacopoeia of India, Part I, Volume V
USP 34 United States Pharmacopoeia 34th Revision

Production Scenario
Of the estimated 960 medicinal plant species that form the source of 1,289 botanical raw drugs in trade in India, rauwolfia root is among the top 178 medicinal plants considered to be in high volume trade and consumption with an estimated annual domestic trade volume of 200 to 500 metric tons (MT). A forest management booklet for rauwolfia is available from the Asia Network for Sustainable Agriculture and Bioresources (ANSAB): http://www.ansab.org/UserFiles/ntfplets/sarpagandha.pdf The Government of India National Medicinal Plants Board (NMPB) provides cultivation practices information in its “Cultivation Practices of Some Commercially Important Medicinal Plants,” available at: http://nmpb.nic.in/WriteReadData/links/560036043sarpagandha.pdf

Market Prices
Market pricing for Rauwolfia root is tracked through the National Medicinal Plants Board (NMPB) “Weekly Online Pricing System of Medicinal Plants” For example, Table 2 shows the minimum, maximum, and average prices (Indian Rupees per kg) from selected Indian markets.

<table>
<thead>
<tr>
<th>Location</th>
<th>Species</th>
<th>Week Date</th>
<th>Minimum Price (Rs./kg)</th>
<th>Maximum Price (Rs./kg)</th>
<th>Average Price (Rs./kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kolkata</td>
<td>Sarpagandha (Rauvolfia Serpentina)</td>
<td>01 Feb, 2011</td>
<td>350</td>
<td>400</td>
<td>375</td>
</tr>
<tr>
<td>Bhubaneshwar</td>
<td>Sarpagandha (Rauvolfia Serpentina)</td>
<td>01 Feb, 2011</td>
<td>250</td>
<td>270</td>
<td>260</td>
</tr>
<tr>
<td>Bokaro</td>
<td>Sarpagandha (Rauvolfia Serpentina)</td>
<td>01 Feb, 2011</td>
<td>300</td>
<td>375</td>
<td>338</td>
</tr>
<tr>
<td>Nagaon</td>
<td>Sarpagandha (Rauvolfia Serpentina)</td>
<td>01 Feb, 2011</td>
<td>350</td>
<td>400</td>
<td>375</td>
</tr>
<tr>
<td>Mandi</td>
<td>Sarpagandha (Rauvolfia Serpentina)</td>
<td>01 Feb, 2011</td>
<td>260</td>
<td>300</td>
<td>280</td>
</tr>
<tr>
<td>Solan</td>
<td>Sarpagandha (Rauvolfia Serpentina)</td>
<td>01 Feb, 2011</td>
<td>220</td>
<td>300</td>
<td>260</td>
</tr>
<tr>
<td>Bhopal</td>
<td>Sarpagandha (Rauvolfia Serpentina)</td>
<td>01 Feb, 2011</td>
<td>250</td>
<td>300</td>
<td>275</td>
</tr>
<tr>
<td>Bangalore</td>
<td>Sarpagandha (Rauvolfia Serpentina)</td>
<td>01 Feb, 2011</td>
<td>325</td>
<td>375</td>
<td>350</td>
</tr>
<tr>
<td>Delhi</td>
<td>Sarpagandha (Rauvolfia Serpentina)</td>
<td>01 Feb, 2011</td>
<td>290</td>
<td>325</td>
<td>307</td>
</tr>
<tr>
<td>Saharanpur</td>
<td>Sarpagandha (Rauvolfia Serpentina)</td>
<td>01 Feb, 2011</td>
<td>300</td>
<td>350</td>
<td>325</td>
</tr>
</tbody>
</table>

Export Trade
Nearly all rauwolfia is traded domestically for use in Indian systems of medicine. Only a minor amount is exported to Germany under CITES permits. All parts and derivatives of Rauwolfia serpentina except a) seeds and pollen; and b) finished products packaged and ready for retail trade, are listed on CITES Appendix II, which means that it is not necessarily now threatened with extinction but that may become so unless trade is closely controlled. Over-collection of rauwolfia root in India has significantly diminished supply and since 1997 there has been an embargo on export of the wild

---

68 Asia Network for Sustainable Agriculture and Bioresources (AMSAB) Non-Timber Forest Products (NTFP) NTFP Management Booklets: http://www.ansab.org/market-information/resources/ntfp-management-booklets
69 National Medicinal Plants Board (NMPB) Cultivation Practices of Some Commercially Important Medicinal Plants: http://nmpb.nic.in/index1.php?level=1&sublinkid=693&lid=345
70 CITES Appendices as of 27 April 2011: http://www.cites.org/eng/app/E-Apr27.pdf
harvested drug from India. The purified substance reserpine is currently either extracted from the roots of *Rauvolfia vomitoria* of African origin or produced by total synthesis.71

---

**BOTANICAL RAW MATERIALS** *(indicative bulk prices)*  
*INR = Indian Rupees / NPR = Nepalese Rupees / USD = United States Dollars*

<table>
<thead>
<tr>
<th>Product</th>
<th>Botanical Name</th>
<th>Cultivated or Wild</th>
<th>Origin</th>
<th>Price per kg</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amla fruit</td>
<td>Phyllanthus emblica</td>
<td>Wild/Cult.</td>
<td>Nepal</td>
<td>INR 51.8</td>
<td>Kathmandu/Nepalgunj</td>
</tr>
<tr>
<td>Belleric myrobalan fruit</td>
<td>Terminalia bellerica</td>
<td>Wild/Cult.</td>
<td>India</td>
<td>INR 16-27</td>
<td>Tanakpur/Lucknow/Kolkata/Delhi</td>
</tr>
<tr>
<td>Belleric myrobalan fruit</td>
<td>Terminalia bellerica</td>
<td>Wild/Cult.</td>
<td>Nepal</td>
<td>NPR 60</td>
<td>Kathmandu</td>
</tr>
<tr>
<td>Cardamom seed, small</td>
<td>Elettaria cardamomum</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 775</td>
<td>Gangtok</td>
</tr>
<tr>
<td>Calamus root</td>
<td>Acorus calamus</td>
<td>Cult. /Wild</td>
<td>Nepal</td>
<td>NPR 45-60</td>
<td>Nepagunj/Kathmandu</td>
</tr>
<tr>
<td>Calamus root</td>
<td>Acorus calamus</td>
<td>Cult./Wild</td>
<td>India</td>
<td>NPR 90-99</td>
<td>Tanakpur/Lucknow/Kolkata/Delhi</td>
</tr>
<tr>
<td>Chebulic myrobalan fruit</td>
<td>Terminalia chebula</td>
<td>Wild</td>
<td>Nepal</td>
<td>NPR 65</td>
<td>Kathmandu</td>
</tr>
<tr>
<td>Chebulic myrobalan fruit</td>
<td>Terminalia chebula</td>
<td>Wild</td>
<td>India</td>
<td>INR 34-45</td>
<td>Tanakpur/Lucknow/Delhi/Kolkata</td>
</tr>
<tr>
<td>Cinnamon bark</td>
<td>Cinnamomum zeylanicum</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 104-120</td>
<td>Tanakpur/Delhi/Kolkata/Lucknow</td>
</tr>
<tr>
<td>Cinnamon bark (Dalchini)</td>
<td>Cinnamomum zeylanicum</td>
<td>Cultivated</td>
<td>Nepal</td>
<td>INR 95</td>
<td>Nepalgunj</td>
</tr>
<tr>
<td>Clove flower bud</td>
<td>Syzygium aromaticum</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 1010</td>
<td>Cochin</td>
</tr>
<tr>
<td>Coriander fruit</td>
<td>Coriandrum sativum</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 66.5-67.5</td>
<td>Chennai</td>
</tr>
<tr>
<td>Cumin seed</td>
<td>Cuminum cyminum</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 162.5-172.5</td>
<td>Chennai</td>
</tr>
<tr>
<td>Fennel fruit</td>
<td>Foeniculum vulgare</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 107.5</td>
<td>Chennai</td>
</tr>
<tr>
<td>Fenugreek seed</td>
<td>Trigonella foenum-graecum</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 35</td>
<td>Chennai</td>
</tr>
<tr>
<td>Garlic bulb</td>
<td>Allium sativum</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 41.5</td>
<td>Chennai</td>
</tr>
<tr>
<td>Ginger rhizome</td>
<td>Zingiber officinale</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 107.5-125</td>
<td>Cochin</td>
</tr>
<tr>
<td>Ginger rhizome, dried (Suntho)</td>
<td>Zingiber officinale</td>
<td>Cultivated</td>
<td>Nepal</td>
<td>NPR 190-275</td>
<td>Nepagunj/Kathmandu</td>
</tr>
<tr>
<td>Ginger rhizome, fresh (Aduwa)</td>
<td>Zingiber officinale</td>
<td>Cultivated</td>
<td>Nepal</td>
<td>NPR 25</td>
<td>Nepalgunj</td>
</tr>
<tr>
<td>Himalayan rhubarb petiole (Amaibed / Chulthi)</td>
<td>Rheum australe</td>
<td>Wild</td>
<td>Nepal</td>
<td>NPR 80-100</td>
<td>Nepagunj/Kathmandu</td>
</tr>
<tr>
<td>Himalayan rhubarb petiole (Amaibed / Chulthi)</td>
<td>Rheum australe</td>
<td>Wild</td>
<td>India</td>
<td>INR 115-144</td>
<td>Tanakpur/Delhi/Lucknow/Kolkata</td>
</tr>
<tr>
<td>Himalayan rhubarb root and rhizome (Padamchal)</td>
<td>Rheum australe</td>
<td>Wild</td>
<td>Nepal</td>
<td>NPR 80-100</td>
<td>Nepagunj/Kathmandu</td>
</tr>
<tr>
<td>Indian cardamom seed (Aiachi)</td>
<td>Amomum subulatum</td>
<td>Cult./Wild</td>
<td>Nepal</td>
<td>NPR 1100</td>
<td>Kathmandu</td>
</tr>
<tr>
<td>Jatamansi root</td>
<td>Narostachys grandiflora</td>
<td>Wild</td>
<td>Nepal</td>
<td>INR 400-410</td>
<td>Nepagunj/Kathmandu</td>
</tr>
<tr>
<td>Long pepper fruit (Pipla)</td>
<td>Piper longum</td>
<td>Cult./Wild</td>
<td>Nepal</td>
<td>NPR 325-400</td>
<td>Kathmandu/Nepalgunj</td>
</tr>
<tr>
<td>Mace aril</td>
<td>Myristica fragrans</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 1160</td>
<td>Cochin</td>
</tr>
<tr>
<td>Morel mushroom</td>
<td>Morchella conica</td>
<td>Wild</td>
<td>India</td>
<td>INR 14400</td>
<td>Delhi/Lucknow</td>
</tr>
<tr>
<td>Morel mushroom (Guchhichyau)</td>
<td>Morchella conica</td>
<td>Wild</td>
<td>Nepal</td>
<td>NPR 12500</td>
<td>Nepalgunj</td>
</tr>
<tr>
<td>Nutmeg kernel (with shell)</td>
<td>Myristica fragrans</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 334.5</td>
<td>Cochin</td>
</tr>
<tr>
<td>Nutmeg kernel (w/o shell)</td>
<td>Myristica fragrans</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 632.5</td>
<td>Cochin</td>
</tr>
<tr>
<td>Psyllium seed, powdered steam sterilized</td>
<td>Plantago ovata</td>
<td>Cultivated</td>
<td>India</td>
<td>USD 9.5</td>
<td>FOB CA</td>
</tr>
<tr>
<td>Senna leaf, TBC, steam sterilized</td>
<td>Cassia angustifolia</td>
<td>Cultivated</td>
<td>India</td>
<td>USD 4.65</td>
<td>FOB Origin</td>
</tr>
<tr>
<td>Shatavari root</td>
<td>Asparagus racemosus</td>
<td>Wild/Cult.</td>
<td>India</td>
<td>INR 736-800</td>
<td>Tanakpur/Lucknow/Delhi/Kolkata</td>
</tr>
<tr>
<td>Shatavari root</td>
<td>Asparagus racemosus</td>
<td>Wild/Cult.</td>
<td>Nepal</td>
<td>INR 400-550</td>
<td>Nepagunj/Kathmandu</td>
</tr>
<tr>
<td>Turmeric rhizome</td>
<td>Curcuma longa</td>
<td>Cultivated</td>
<td>India</td>
<td>INR 51.8-97.5</td>
<td>Erode/Chennai</td>
</tr>
<tr>
<td>Winged Prickly ash fruit (with seed)</td>
<td>Zanthoxylum armatum</td>
<td>Wild</td>
<td>India</td>
<td>NPR 125-136</td>
<td>Tanakpur/Delhi/Kolkata/Lucknow</td>
</tr>
<tr>
<td>Winged Prickly ash fruit (with seed) (Timur)</td>
<td>Zanthoxylum armatum</td>
<td>Wild</td>
<td>Nepal</td>
<td>NPR 120-265</td>
<td>Nepagunj/Kathmandu</td>
</tr>
</tbody>
</table>

Notes:
(1) **Quality Standards:** Monographs providing quality standards and tests for most all of the above listed herbs can be found either in the *Ayurvedic Pharmacopoeia of India* (Volumes I through V), the *Siddha Pharmacopoeia of India* (Part I, Volume I), the *Unani Pharmacopoeia of India* (Volumes I through V), the *Indian Pharmacopoeia* 2010, and/or the *Indian Herbal Pharmacopoeia* 2002.

---

**MEETINGS AND TRADE SHOWS**

**INDIA and other Southern, Central and Western Asian Countries**

**September 4-9, 2011**

59th INTERNATIONAL CONGRESS AND ANNUAL MEETING OF THE SOCIETY FOR MEDICINAL PLANT AND NATURAL PRODUCT RESEARCH

Venue: Maritim Pine Beach Hotel, Belek, Antalya, Turkey

Contact: Chairman K. Hüsnü Can Başer

TEL: +90 312 439 68 04

FAX: +90 312 439 68 02

E-MAIL: info@ga2011.org

WEB: http://www.ga2011.org

**Topics:** Conservation and biodiversity issues, Quality control and safety assessments of phytomedicines, and Cosmetics, flavors and aromas, among others. Workshops include: Regulatory Affairs of Herbal Medicinal Products, Manufacturing and Quality Control of Herbal Remedies, and Breeding and Cultivation of Medicinal Plants.

**September 11-14, 2011**

42nd INTERNATIONAL SYMPOSIUM ON ESSENTIAL OILS (ISEO 2011)

Venue: Maritim Pine Beach Resort, Hotel Antalya, Turkey

Supporters: ICMAP, International Year of Chemistry 2011

Sponsor: MG Gülçicek International Fragrance Company, CAMAG

Contact: FTS Turizm Hilal Mahallesi 4. Cadde 65/10 Yıldız Çankaya Ankara, Turkey

TEL: +90 312 439 68 04

FAX: +90 312 439 68 02 / FAX: +48 71 328 40 64

E-MAIL: info@iseo2011.org

WEB: http://www.ideo2011.org

Main Topics include cultivation of plants used for the production of essential oils and oil production. There will also be an exhibition.

**September 20-26, 2011**

TRAINING ON MUSHROOM CULTIVATION FOR SMALL / MARGINAL FARMERS / GROWERS-II

Venue: Chambagaht, Solan India

Sponsors: Directorate of Mushroom Research, Indian Council for Agricultural Research

Contact: Directorate of Mushroom Research, Indian Council of Agricultural Research, Chambaghat 173213, Solan, Himachal Pradesh.

TEL: 91-1792-230767, 230541

E-MAIL: Directormr@gmail.com


**September 25-27, 2011**

ASIAN HERBAL SHOW & EXHIBITION

Venue: NSIC Exhibition Grounds, Okhla, New Delhi, India

Host: Society for Conservation and Resource Development of Medicinal Plants, New Delhi and Services International

Contact: D-4, A block, LSC, Naraina Vihar, Ring Road, New Delhi-110028, India

TEL: +91 11 45055500

FAX: +91 11 45055566

E-MAIL: info@servintonline.com

WEB: http://www.asianherbalshow.com
**Exhibitor profile:** Suppliers of herbal extracts and ingredients, Medicinal Plants Boards, Forest Departments, Ayurvedic, Siddha and Unani herbal drugs, manufacturers of herbal foods and herbal teas, health drinks and dietary supplements, manufacturers of equipment and machines used in manufacture of Ayurvedic and other herbal medicinal products.

**October 3-4, 2011**
**FOOD INGREDIENTS INDIA 2011**
Venue: Bombay Exhibition Centre, Mumbai, India
Contact: UBM International Media, PO Box 12740, 1100 AS Amsterdam Z.O., Netherlands.
TEL: +31 (0) 20 40 99 544
FAX: +31 (0) 20 36 32 616
E-MAIL: Jonathon.vis@ubm.com
WEB: http://fiindia.ingredientsnetwork.com

Although most exhibitors represent the food ingredient value chain, there will be some exhibitors of medicinal and aromatic plants & extracts.

**October 20-22, 2011**
**2nd GLOBAL SUMMIT ON SUSTAINABLE DEVELOPMENT AND BIODIVERSITY (GLOSS 2011)**
Venue: Raipur, Chhattisgarh, India
Host: Council for Tribal and Rural Development (CTRD), Society for International Development (SID), African Bound Corporation, German Association for Homa therapy, AEI Research and Consultancy Pvt. Ltd.
Contact: Dr. R.N. Pati, Conference Coordinator Mahamaya Bhawan, HIG-101, Kanan Vihar, Phase-1, PO Patia, Bhubaneswar
TEL: +91 674 274 1025/395 1598
FAX: +91 674 395 1598
E-MAIL: drpati54@gmail.com
WEB: http://www.gloss2011.com

**Conference theme:** Traditional knowledge and biodiversity conservation, sustainable development, public interest environmental laws, energy and biodiversity, conservation and sustainable use of wild plant diversity. **Exhibitor profile:** Producers, processors and exporters of medicinal herbs, certified organic ingredients, essential oils, equipment for packaging herbal products.

**October 29-31, 2011**
**THE FIFTH INTERNATIONAL CONFERENCE ON VETIVER (ICV-5)**
Venue: Central Institute of Medicinal and Aromatic Plants, Lucknow India
Organizers: Central Institute of Medicinal and Aromatic Plants (CIMAP), The Chaipattana Foundation (Bangkok, Thailand), Office of the Royal Development Projects Board (ORDPB) (Bangkok Thailand), The Vetiver Network International (TVNI), The India Vetiver Network, National Science Agencies in India (CSIR, DST, ICAR, National Medicinal Plant Board, Ministry of Environment and Forests, etc.)
Contact: ICV-5 Secretariat Dr. U. C. Lavania, Central Institute of Medicinal and Aromatic Plants (CIMAP) / TEL: +91 522 271743
FAX: +91 522 2342666
E-MAIL: icv-5@cimpa.res.in
WEB: http://icv-5.cimap.res.in

**Conference Theme:** The fast growing and deep roots of Vetiver and high biomass has opened new opportunities for its utilization in mitigating global warming through photosynthetic capture of atmospheric carbon and its sequestration in subsoil horizons. Technical advances are also being made in cellulosic conversion of plant biomass into biofuel offering an integrated approach for optimum utilization of vetiver plantations thereby reducing the load from anthropogenic emissions. The conference aims to review the states of art developments on the prospects and potential of Vetiver in addressing issues related to climate change and mitigation of global warming, update the latest developments of Vetiver applications to underscore its promises and potential in the service of the global community, overview the Vetiver Ecosystem Services.
November 10-12, 2011
BIOFACH INDIA 2011 INTERNATIONAL ORGANIC TRADE FAIR
Venue: Bombay Exhibition Centre, Mumbai India
Patron: International Federation of Organic Agriculture Movements (IFOAM)
Supporters: NCOF, Ministry of Agriculture, APEDA, MOFPI
Contact: Miriam Stahel, Nurnberg Global fairs Messezentrum 90471 Nurnberg Germany.
TEL: +49 (0) 9 11 86 06-86 92
FAX: +49 911 8606 8694
E-MAIL: biofach-globally@nuernbergmesse.de
WEB: http://www.biofach-india.com

Exhibitor profile: Although primarily a trade show for certified organic finished products, there will be some suppliers of botanical raw materials and extracts.

December 5-7, 2011
MIDDLE EAST NATURAL & ORGANIC PRODUCTS EXPO (MENOPE) 2011
Venue: Dubai International Exhibition & Convention Centre, Dubai, UAE
Organizer: Global Links Dubai LLC, a division of Conex Exhibitions LLC.
Supporters: International Federation of Organic Agriculture Movements (IFOAM), Chamber of Herbal Industries of the Philippines, Korea Health Supplement Association, International Competence Centre of Agriculture, MEVEG.
Contact: Global Links Dubai LLC P.O. Box 34351, Dubai, U.A.E.
TEL: +971 4 3322283, 3327274
FAX: +971 4 3322253
EMAIL: info@naturalproductme.com
WEB: http://www.naturalproductme.com

Exhibitor Profile: Herbs & spices, herbal extracts, herbal teas & coffees, phytopharmaceutical products, traditional medicines (Ayurveda, Homeopathic, Naturopathic), dietary supplements, organic foods, natural juice, aromatherapy products

February 17-19, 2012
12TH INTERNATIONAL CONGRESS OF ETHNOPHARMACOLOGY
Venue: School of Natural Product Studies Jadavpur University, Kolkata, India
Contact: Dr. Pulok K. Mukherjee PhD, FRSC, Department of Pharmaceutical Technology, Jadavpur University, Kolkata
TEL/FAX: +91 33 24146046 / +9 1801 7783910
E-MAIL: info@ise-snpsju.org or natprodpk@yahoo.com
WEB: http://www.ise-snpsju.org

Sessions of interest to producers, traders and exporters of medicinal plants & extracts will include:
- Global trade and commercialization of Ayurveda and other ancient systems of medicine
- Ethnopharmacology, bio-cultural diversity and conservation of medicinal plants
- International co-operation for promotion and development of natural products.

February 23-25, 2012
PANACEA – 5TH NATURAL PRODUCTS EXPO INDIA
Venue: World Trade Centre Complex, Mumbai, India
Organizers: Seishido Communications
Contact: Ms. Mini Chakravarty, CEO
E-MAIL: mini@seishidocommunications.com
WEB: http://www.seishidocommunications.com

Exhibitor Profile: Raw Material & Ingredients: Plant Extracts, Raw and Encapsulated Herbs, Spices, Natural Ingredients, Nutraceuticals, Pro-Biotics Functional Food & Bakery Ingredients, Cosmeceutical, Oilseeds & Oilseed extract Natural Essence, Natural colors & Flavorings etc.…
Natural Medicinal products: Herbal, Ayurveda, Naturopathy, Homeopathy, Unani, Siddha, Chinese
medicines and other Traditional medicines…. Other Natural Products: Textile Fibers, Detergents, Pesticides, Fertilizers & Crop Care, Household Cleaners, Forest Produce, Bio-energetics & Essence Sticks…

December 27-30, 2012

5TH WORLD AYURVEDA CONGRESS (5TH WAC) AND AROGYA EXPO

Venue: Lal Parade Ground, Bhopal, India

Organizers: Vijnana Bharati India (VIBHA); Department of AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy), Ministry of Health and Family Welfare, Government of India

Partners: Pharmaceuticals Export Promotion Council (PHARMEXCIL), Dhootapapeshwar, Ministry of Commerce & Industry Government of India, Avs, Kottakal.

Contacts: WAC Secretariat Organising Committee Office, ZCCK Premises, OPD Entrance NIMHANS Bengaluru, Karnataka 560029 India; TEL: 91 80 265 62 555

Arogya Expo Contact: Mr Ranjit Puranik
EMAIL: arogya@ayurworld.org / TEL: +91 98470 75750
Buyer-Seller Meet Contact: Mr. S Murali Krishna
EMAIL: info@pharmexcil.com or research@pharmexcil.com
TEL: +91 92461 99792

WEB: http://www.ayurworld.org

AROGYA Expo Exhibitor profile includes collectors, cultivators, suppliers and traders of medicinal plants for use in Ayurvedic herbal medicinal products.
There will also be an organized buyer-seller meet with a focus on Ayurveda and herbal value-added products, powders and extracts, Ayurvedic and herbal formulations, dietary supplements, nutraceuticals, functional foods and botanical drugs developed for specific world markets.
PRODUCTION AND TRADE OF CANDELILLA WAX FROM MEXICO

The United Mexican States (Mexico) is the world’s main producer and exporter of candelilla wax, which is used as a component of cosmetics, foods and medicines. In 2010, Mexico exported 1,663,718 kg mainly to the United States of America, French Republic, Japan, and Federal Republic of Germany. This species also occurs in parts of the southern USA. All plant parts and derivatives that are not “packaged and ready for retail trade” are included in Appendix II (e.g. candelilla wax) of CITES, which means that it is a species that is not necessarily now threatened with extinction but that may become so unless trade is closely controlled. Export permits are granted if the relevant authorities are satisfied that certain conditions are met, above all that trade will not be detrimental to the survival of the species in the wild. Excluded from CITES Appendix II are finished products for retail sale such as lipsticks.72

Botanical name: Euphorbia antisyphilitica Zucc. (Fam. Euphorbiaceae)

Common name: Candelilla Wax (English)
Cera de Candelilla (Spanish)

Definitions:
Candelilla Wax CFR is obtained from the candelilla plant. It is a hard, yellowish-brown, opaque-to-translucent wax. Candelilla wax is prepared by immersing the plants in boiling water containing sulfuric acid and skimming off the wax that rises to the surface. It is composed of about 50 percent hydrocarbons with smaller amounts of esters and free acids.

Candelilla Wax FCC occurs as a hard, yellow-brown, opaque to translucent wax. It is a purified wax obtained from the leaves of the candelilla plant, Euphorbia antisyphilitica (Fam. Euphorbiaceae). Its specific gravity is about 0.983. It is soluble in chloroform and in toluene, but insoluble in water.

Candelilla Wax NF is the purified wax obtained from the leaves of the candelilla plant, Euphorbia antisyphilitica.

Chemical Abstracts Service (CAS) Registry Number: 008006448

International Numbering System of the Codex Alimentarius (INS) Number: 902

Harmonized System Tariff Codes (HS Codes):

<table>
<thead>
<tr>
<th>HS Code</th>
<th>Article Description</th>
<th>FDA Flag for Prior Notice</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS 1301.90.0000 (BTI)</td>
<td>Candelilla resin</td>
<td></td>
</tr>
<tr>
<td>HS 1521.10.0020 (HTSUS)</td>
<td>Vegetable waxes: Candelilla</td>
<td></td>
</tr>
<tr>
<td>HS 1521.10.0000 (BTI)</td>
<td>Candelilla wax</td>
<td></td>
</tr>
</tbody>
</table>

Subject to Prior Notice before import into the United States:

FD3 - Indicates that the article may be subject to prior notice under section 801(m) of the FD&C Act and 21 CFR Part 1, subpart I, e.g., the article has both food and non-food uses.

Native Habitat
Mainly found growing wild in the Chihuahuan Desert which straddles the Mexican and U.S. border. It is distributed in the Mexican states of Durango, Zacatecas, Chihuahua, Nuevo León, San Luis Potosí, Tamaulipas, and Coahuila. It also occurs in the USA; in southwest Texas and in New Mexico.

Main Producing Areas
Mexican states of Coahuila and Chihuahua and in Texas.

Main Uses in Cosmetic, Food and Pharmaceutical Products
(1) As a substance added directly to food affirmed as Generally Recognized as Safe (GRAS): 21 CFR Sec. 184.1976
(2) As a component of chewing gum: 21 CFR Sec. 170.3(n)(6)
(3) As a component of hard candy and cough drops: 21 CFR Sec. 170.3(n)(25)
(4) As a lubricant substance in foods: 21 CFR Sec. §170.3(o)(18):
(5) As a surface-finishing agent in foods: 21 CFR Sec. 170.3(o)(30)
(6) As a food additive substance that is a component of adhesives: 21 CFR Sec. 175.105(c)
(7) As a component of resinous and polymeric coatings for polyolefin films [adjuvants (release agents, waxes, and dispersants)]: 21 CFR Sec. 175.320(b)(3)(iii)
(8) As a component of paper and paperboard in contact with dry food: 21 CFR Sec. 176.180
(9) As a thickener and wax used in cosmetic stick products such as lipsticks and blushers
(10) As an excipient component of pharmaceutical products so long as it conforms to the standards of the National Formulary monograph (Candelilla Wax NF)
(11) As a food ingredient (e.g. masticatory substance in chewing gum base; surface-finishing agent) so long as it conforms to the standards of the Food Chemicals Codex monograph (Candelilla Wax FCC)

Quality Standards
Before exporting it is important to understand the various defined quality grades and standards that buyers may specify. There are pharmacopoeial monographs for Candelilla Wax available in the Food Chemicals Codex (FCC) as well as in the United States Pharmacopeia National Formulary (USP-NF).

Production Scenario
Candelilla wax is obtained exclusively from the wild-harvested candelilla shrubs mainly from the Mexican states of Coahuila and Chihuahua and in Texas. The entire mature plant is uprooted. The wax is prepared by immersing the plants in boiling water containing sulfuric acid and skimming off the wax that rises to the surface. It is composed of about 50 percent hydrocarbons with smaller amounts of esters and free acids. Useful publications on the harvest and processing of Candelilla shrubs include the following:


Schneider E. Trade survey study on succulent Euphorbia species protected by CITES and used as cosmetic, food and medicine, with special focus on Candelilla wax. Eighteenth meeting of the Plants Committee Buenos Aires (Argentina), 17-21 March 2009: Convention on International Trade in Endangered Species of Wild Flora and Fauna. Available at: http://www.cites.org/common/com/PC/18/X-PC18-Inf06.pdf

More info is available from the Candelilla Institute website: http://www.candelilla.org
**Selected Suppliers of Candelilla Wax:**

- Henka S.A.  
- Koster Keunen LLC  
  [http://www.kosterkeunen.com](http://www.kosterkeunen.com)
- Multiceras S.A. de C.V.  
  [http://www.multiceras.com](http://www.multiceras.com)
- Produccion de Cera S.A. de C.V.  
  [http://www.ceradecandelilla.com](http://www.ceradecandelilla.com)
- Strahl & Pitsch  

**Volume of Candelilla Trade:**

Mexico’s export trade volume of Candelilla wax is reported in the CITES Trade Database. In 2010, Mexico exported 1,663,718 kg, which was nearly the same quantity as exported in 2009 (1,672,245 kg). Main importers in 2010, collectively accounting for over 92% of the total export volume, were the United States 563,000 kg, Japan 395,195 kg, France 315,025 kg, and Germany 269,023 kg.

---

**BOTANICAL PRODUCT SPECIFICATIONS**

**Candelilla Wax**  
*a product of MEXICO*

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>Candelilla Wax NF(^73)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botanical name</td>
<td><em>Euphorbia antisyphilitica</em> Zucc. (Fam. Euphorbiaceae)</td>
</tr>
<tr>
<td>Part used and Form</td>
<td>Purified wax obtained from the leaves.</td>
</tr>
<tr>
<td>Packaging and Storage</td>
<td>Preserve in well-closed containers. No storage requirements specified.</td>
</tr>
</tbody>
</table>

**CHARACTERS**

- **Appearance**  
  A hard, yellowish-brown-opaque to translucent wax.

- **Solubility**  
  Soluble in chloroform and in toluene; insoluble in water.

- **Specific gravity**  
  About 0.983

**IDENTIFICATION**

- **Infrared absorption**  
  As per Candelilla Wax NF monograph test

- **Melting range**  
  Between 68.5\(^\circ\) and 72.5\(^\circ\) (USP 741)

**TESTS**

- **Acid value**  
  Between 12 and 22 (USP 401)

- **Saponification value**  
  Between 43 and 65 (USP 401)

- **Heavy metals**  
  Maximum 0.002% (USP 231)

- **Limit for lead**  
  As per Candelilla Wax NF monograph test (USP 251)

---

\(^73\) United States Pharmacopoeial Convention. Candelilla Wax. In: *United States Pharmacopoeia 34*\(^{rd}\) Revision  
2011.
### BOTANICAL RAW MATERIALS (indicative bulk prices)

**CAD = Canadian Dollar – USD = United States Dollar**

<table>
<thead>
<tr>
<th>Product</th>
<th>Botanical Name</th>
<th>Grade</th>
<th>Cultivated Or Wild</th>
<th>Origin</th>
<th>Price per kg</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>American ginseng root</td>
<td><em>Panax quinquefolius</em></td>
<td>Hong Kong top</td>
<td>Wild</td>
<td>USD</td>
<td>USD 1158</td>
<td>FOB</td>
</tr>
<tr>
<td>American ginseng root</td>
<td><em>Panax quinquefolius</em></td>
<td>USP-NF</td>
<td>Cultivated</td>
<td>Wisconsin</td>
<td>USD 60</td>
<td>Farmgate-WI</td>
</tr>
<tr>
<td>American ginseng root</td>
<td><em>Panax quinquefolius</em></td>
<td>Small legs</td>
<td>Cultivated</td>
<td>Minnesota</td>
<td>USD 61.73</td>
<td>FOB SF</td>
</tr>
<tr>
<td>American ginseng root*</td>
<td><em>Panax quinquefolius</em></td>
<td>Medium</td>
<td>Cultivated</td>
<td>Minnesota</td>
<td>USD 99.21</td>
<td>FOB SF</td>
</tr>
<tr>
<td>Black cohosh rhizome</td>
<td><em>Actaea racemosa</em></td>
<td>Extract quality</td>
<td>Wild</td>
<td>USA</td>
<td>USD 16.95</td>
<td>EXW</td>
</tr>
<tr>
<td>Cardamom seed</td>
<td><em>Elettaria cardamomum</em></td>
<td>USP-NF</td>
<td>Cultivated</td>
<td>Guatemala</td>
<td>USD 79</td>
<td>FOB</td>
</tr>
<tr>
<td>Coriander fruit</td>
<td><em>Coriandrum sativum</em></td>
<td>NK</td>
<td>Cultivated</td>
<td>Canada</td>
<td>USD 1.48</td>
<td>Spot NY</td>
</tr>
<tr>
<td>Echinacea herb*</td>
<td><em>Echinacea purpurea</em></td>
<td>PhEur</td>
<td>Cultivated</td>
<td>Pacific NW</td>
<td>USD 5.95</td>
<td>FOB Pac NW</td>
</tr>
<tr>
<td>Echinacea root*</td>
<td><em>Echinacea purpurea</em></td>
<td>USP-NF</td>
<td>Cultivated</td>
<td>California</td>
<td>USD 12.9</td>
<td>Farmgate-CA</td>
</tr>
<tr>
<td>Echinacea root*</td>
<td><em>Echinacea purpurea</em></td>
<td>PhEur</td>
<td>Cultivated</td>
<td>Pacific NW</td>
<td>USD 22.04</td>
<td>FOB Pac NW</td>
</tr>
<tr>
<td>Goldenseal rhizome</td>
<td><em>Hydrastis canadensis</em></td>
<td>Extract quality</td>
<td>Cultivated</td>
<td>Wisconsin</td>
<td>USD 78.5</td>
<td>Farmgate-WI</td>
</tr>
<tr>
<td>Goldenseal rhizome</td>
<td><em>Hydrastis canadensis</em></td>
<td>Wild</td>
<td>USA</td>
<td>USD 75</td>
<td>EXW</td>
<td></td>
</tr>
<tr>
<td>Goldenseal rhizome powdered</td>
<td><em>Hydrastis canadensis</em></td>
<td>California Prop 65 compliant</td>
<td>Wild/Cult</td>
<td>USA</td>
<td>USD 95</td>
<td>FOB CA</td>
</tr>
<tr>
<td>Marshmallow root</td>
<td><em>Althaea officinalis</em></td>
<td>NK</td>
<td>Cultivated</td>
<td>USA</td>
<td>USD 13.9</td>
<td>FOB Pac NW</td>
</tr>
<tr>
<td>Peppermint leaf*</td>
<td><em>Mentha × piperita</em></td>
<td>PhEur</td>
<td>Cultivated</td>
<td>USA</td>
<td>USD 8.15</td>
<td>FOB Pac NW</td>
</tr>
<tr>
<td>Pleurisy root</td>
<td><em>Asclepias tuberosa</em></td>
<td>BHP</td>
<td>Cultivated</td>
<td>USA</td>
<td>USD 41.77</td>
<td>FOB CA</td>
</tr>
<tr>
<td>Saw palmetto fruit</td>
<td><em>Serenoa repens</em></td>
<td>USP-NF</td>
<td>Wild</td>
<td>Florida</td>
<td>USD 7.05</td>
<td>EXW-FL</td>
</tr>
<tr>
<td>Slippery elm bark*</td>
<td><em>Ulmus rubra</em></td>
<td>USP</td>
<td>Wild</td>
<td>USA</td>
<td>USD 30.42</td>
<td>FOB USA</td>
</tr>
<tr>
<td>Wild Cherry bark</td>
<td><em>Prunus serotina</em></td>
<td>BHP</td>
<td>Wild</td>
<td>USA</td>
<td>USD 16.5</td>
<td>FOB CA</td>
</tr>
</tbody>
</table>

* Certified organic – NK = Grade not known

**Notes:**

1. **Quality Standards:** Standards for the above listed medicinal plants are published in the *United States Pharmacopeia - National Formulary* (USP-NF). Some also have quality standards published in the *Farmacopea Herbolaria de los Estados Unidos Mexicanos* (FHEUM) and/or in the *European Pharmacopoeia* (PhEur).

2. *Echinacea angustifolia* root is up in price as it is not readily available.

### BOTANICAL EXTRACTS (Indicative bulk prices)

<table>
<thead>
<tr>
<th>Product</th>
<th>Standard</th>
<th>Origin</th>
<th>Price USD/kg</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black cohosh rhizome dry extract (Actaea racemosa)</td>
<td>min 2.5% triterpene glycosides as 27-deoxyactein</td>
<td>USA</td>
<td>65-65</td>
<td>FOB USA</td>
</tr>
<tr>
<td>Echinacea purpurea herb dry extract (Echinacea purpurea)</td>
<td>min 4% phenols expressed as chlorogenic acid</td>
<td>USA</td>
<td>35-48</td>
<td>FOB USA</td>
</tr>
<tr>
<td>Goldenseal rhizome, powdered extract (Hydrastis canadensis)</td>
<td>5% alkaloids (hydrastine &amp; berberine)</td>
<td>USA</td>
<td>90</td>
<td>FOB USA</td>
</tr>
<tr>
<td>Saw palmetto fruit extract (EU standard) (Serenoa repens)</td>
<td>min 85% and max 95% fatty acids</td>
<td>USA</td>
<td>85-110</td>
<td>FOB USA</td>
</tr>
<tr>
<td>Saw palmetto fruit CO2 soft extract (Serenoa repens)</td>
<td>Min 85% fatty acids, 15% phytosterols</td>
<td>USA</td>
<td>77</td>
<td>FOB CA</td>
</tr>
</tbody>
</table>

**Notes:**

1. Black Cohosh rhizome prices rose over the last quarter of 2010 due to a late harvest coming which was a result of a severe winter in the southeast, early snow, and a low stock of the harvest from the previous year.
MEETINGS AND TRADE SHOWS
NORTH AMERICAN COUNTRIES

October 5, 2011
2011 ASTA REGULATORY/LEGISLATIVE WORKSHOP: The Food Safety Modernization Act and Its Impact on the Spice Industry
Venue: Hyatt Regency Crystal City, Arlington, VA
Organizer: American Spice Trade Association (ASTA)
Contact: ASTA TEL: 202 367 1127 / FAX: 202 367 2127
E-MAIL: info@astaspice.org
WEB: http://www.astaspice.org/i4a/pages/index.cfm?pageID=4230

Speakers from the FDA will discuss food safety in the spice industry, noxious weed/seed issues will be addressed by USDA staff plus an update on the Reportable Food Registry.

October 8, 2011
HAWAI‘I PACIFIC ISLANDS KAVA FESTIVAL
Venue: UH Manoa main campus, McCarthy Mall Honolulu Hawai‘i
Contact: Awa Development Council, P.O. Box 26344 Honolulu HI 96825
TEL: (808) 256 5606 / FAX: (808) 395 3772
E-MAIL: secy.adc@gmail.com
WEB: http://awadevelopment.org/kavafestival/

October 10-14, 2011
SUPPLY SIDE WEST INTERNATIONAL TRADE SHOW AND CONFERENCE
Venue: Venetian Hotel and Sands Exposition Center, Las Vegas, USA
Organizer: Virgo Publishing, Phoenix, Arizona USA
WEB: http://www.supplysideshow.com/west

Exhibitor Profile: Exhibitors of natural health ingredients and medicinal herbs & extracts.

March 9-11, 2012
ENGREDEA INGREDIENTS & INNOVATION
Venue: Anaheim Convention Center, Anaheim, California USA
Producer: New Hope Natural Media, Boulder, Colorado USA
Contact: New Hope Natural Media, 1401 Pearl Street, Suite 200, Boulder CO 80302 USA.
TEL: 303 390 1776
E-MAIL: tradeshows@newhope.com
WEB: http://engredea.com/engredea12/Public/enter.aspx

Engredea, co-located in Natural Product Expo West, brings together natural ingredient suppliers and product manufacturers to source new ingredients, packaging, technologies, equipment and services.

May 8-10, 2012
SUPPLY SIDE MARKET PLACE
Venue: Javits Center, New York City
Organizer: Virgo Publishing, Phoenix, Arizona USA
Contact: Todd Willis TEL: 480 990 1101 ext. 1171
E-MAIL: twillis@vpico.com

Exhibitor Profile: Exhibitors of natural health ingredients and medicinal herbs & extracts.
SUSTAINABLE PRODUCTION AND TRADE OF JABORANDI FROM BRAZIL

The leaves of the Brazilian medicinal plant Jaborandi provide the starting material of herbal origin for the production of natural herbal extracts as well as for extraction of the alkaloid pilocarpine, which is used as a prescription drug in ophthalmology for treatment of glaucoma. Jaborandi is listed as an endangered species of Brazil. As such, methods of sustainable wild harvesting and sustainable agriculture are being implemented. Information on sustainable production and use from selected projects are discussed here.

Botanical name: *Pilocarpus microphyllus* Stapf. (Fam. Rutaceae)

Common names:
- English: Jaborandi leaf
- French: Feuille de jaborandi
- German: Jaborandiblätter
- Italian: Foglia di jaborandi
- Portuguese: Maranhão jaborandi
- Spanish: Hoja de jaborandi

Pharmacopoeial names:
- Jaborandi Folium: Jaborandi leaf
- Jaborandi Infusum: Jaborandi tea
- Jaborandi Tinctura: Jaborandi tincture
- Pilocarpus Folium: Jaborandi leaf
- Pilocarpus Fluidextractum: Jaborandi fluidextract

Definitions

- Jaborandi Folium is the dried leaflet of *Pilocarpus microphyllus* Stapf. (Fam. Rutaceae).
- Jaborandi Tinctura FB is the 1:10 (w/v) liquid extract prepared from Jaborandi Folium by maceration or percolation using ethanol 65% (v/v) as extraction solvent, containing minimum 0.06% of total alkaloids expressed as pilocarpine (C_{11}H_{16}N_{2}O_{2}; M 208.26).
- Pilocarpine USP contains not less than 95.0 percent and not more than 100.5 percent of pilocarpine (C_{11}H_{16}N_{2}O_{2}), calculated on the anhydrous basis. Related monographs include Pilocarpine Ocular System USP; Pilocarpine Hydrochloride USP; Pilocarpine Hydrochloride Ophthalmic Solution USP; Pilocarpine Hydrochloride Tablets USP; Pilocarpine Nitrate USP; and Pilocarpine Nitrate Ophthalmic Solution USP.

Harmonized System Tariff Codes (HS Codes)

<table>
<thead>
<tr>
<th>HS Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS 1211.90 (WCO)</td>
<td>Jaborandi leaf</td>
</tr>
<tr>
<td>HS 2939.90.1000 (HTSUS)</td>
<td>Pilocarpine; extracted, through a series of steps, from dried crushed leaves of <em>Pilocarpus microphyllus</em>, or other suitable <em>Pilocarpus</em> species.</td>
</tr>
<tr>
<td>HS 2939.90.5000 (HTSUS)</td>
<td>Pilocarpine hydrochloride and Pilocarpine nitrate.</td>
</tr>
</tbody>
</table>

Native Habitat

Pará and Maranhão States; a region of mid-northern Brazil known as “Pre-Amazônia” (Pre-Amazon).

Main Producing Areas

Brazilian States of Maranhão, Pará and Piauí.

Cosmetic uses

Pilocarpus Microphyllus Leaf Extract (the extract of the leaves of *Pilocarpus microphyllus*, Rutaceae) is listed in the European Commission Cosmetic Ingredients and Substances (CosIng) database: CAS # 84604-03-5; EINECS/ELINCS # 283-279-3; Function: Skin conditioning (maintains the skin in good condition).

74 Lista Oficial de Espécies da Flora Brasileira Ameaçadas de Extinção (Brasil, IBAMA, 1992)
Therapeutic Uses

- Jaborandi Tinctura and dilutions of the tincture are used in homoeopathic medicine in formulations for treatment of ocular fatigue, weakening vision, presbyopia (condition in which the lens of the eye loses its ability to focus, making it difficult to see objects up close) and for astigmatism (condition that causes blurred vision).

- Pilocarpine hydrochloride tablets are approved in the United States for the treatment of symptoms of dry mouth from salivary gland hypofunction caused by radiotherapy for cancer of the head and neck and for the treatment of symptoms of dry mouth in patients with Sjögren's Syndrome.

- Pilocarpine hydrochloride ophthalmic gel 4% is a sterile topical ophthalmic aqueous gel approved in the United States to control intraocular pressure.

- Pilocarpine ophthalmic solution is a prescription medication for treating glaucoma.

Quality Standards

Before exporting it is important to understand the various defined quality grades and standards that buyers may specify. The Brazilian Pharmacopoeia provides quality standards monographs for Jaborandi Tinctura as well as for Pilocarpini hydrochloridum.

Sustainable Production Scenario – Case Study

Located in the city of Parnaíba, Piauí State, Vegeflora Extrações do Nordeste Ltda, a company of the Centroflora Group, produces pilocarpine salts, extracted from the leaves of the Pilocarpus microphyllus Stapf (jaborandi) plant.

For its jaborandi harvesting, Vegeflora has implemented the sustainability standard -BioTrade Verification Framework for Native Natural Ingredients-, which has been audited and certified by IBD (Instituto Biodinâmico for Rural Development), an accredited independent inspection and certification organization. A public summary of IBD’s 2010 inspection (updated 22 March 2011) is available at:


In the Território dos Cocais, one of the poorest regions of Brazil: Vegeflora’s project which they call –Valorization Project of Native Jaborandi,“ is being implemented in the areas of Matias Olímpio, Luzilândia, São João do Arraial, Porto, Campo Largo, Morro do Chapéu and Esperantina.

A partnership between the German Society for International Cooperation (GIZ) and the Floravida Institute created the –Casa do Jaborandi‘, which supports the approximately 250 harvesters in this region who are trained in sustainable pruning practices. Definition of fair prices for all involved in the supply chain and establishment of contracts of Payment for Environmental Services (PES) have been implemented in the project. For additional household income, in addition to the harvesting of jaborandi leaves, the harvesters from Território dos Cocais region also harvest babaçu mesocarp (Orbignya phalerata Mart. [Arecaceae (Palmae)]) and carnaúba leaf (Copernica prunifera (Mill.) H.E. Moore [Arecaceae]).

To insure a sustainable supply that keeps up with demand, Vegeflora is sponsoring the production of jaborandi seedlings which will be placed in Tabuleiros region – Parnaíba littoral. The company intends to obtain about 50% of its requirements from sustainable wild harvesting and the other 50% from sustainable cultivation. The company is also cultivating acerola fruit (Malpighia glabra L.}

---


Malpighiaceae]), coconut (Cocos nucifera L. [Areceae]), erva baleeira (Cordia verbenacea DC. [Boraginaceae]) and neem (Azadirachta indica A. Juss. [Meliaceae]).

It is the company's policy to only purchase jaborandi leaves collected with pruning shears, refusing branches, and thereby discouraging the collection of entire plants. During trainings, the collectors receive orientation regarding the collection of plants higher than 50 cm and shorter than 2 meters, permitting reproduction and perpetuation of the species. Vegeflora provides shears, as well as Personal Protection Equipment to the collectors – boots, overalls, hats.

The leaves are collected in the forest and Savannas (Carajás and Xingu) or in the Caatinga (Cocais Territory). They are dried on tarps laid out in clearings (sequeiros), where they are left for nearly 3 days and turned when necessary to not ferment. When these reach an ideal level of dryness, the leaves are placed in raffia sacks and transported to the weighing stations where they are stored in jute sacks until a full load is obtained for transport to the factory. At the plant the leaves are processed for extraction of the pilocarpine salts, final product for commercial use.

The jaborandi wild-harvesting areas are situated in a reservation where the indigenous Kayapós people live. As a sponsor, Vegeflora motivated and helped the harvesters to form a cooperative called -Cooperativa dos Extrativistas de Produtos Não Madeireiros e Compradores de Produtos Extrativistas de São Félix do Xingu – COOPEXINGU." The cooperative now has 55 members who have been trained on sustainable pruning methods that ensure regeneration. Environment education, sustainable trade and community association are concepts that were approached and evaluated together with the harvesters and the company team.

Vegeflora has also established a partnership between a mining company -Vale”, the German GIZ and ICMBio (Instituto Chico Mendes de Conservação da Biodiversidade). In this partnership, harvesting in the National Forest of Carajás – FLONA Carajás, is carried out through the cooperative -Cooperativa dos Colheedores de Folha de Jaborandi – YABORANDI." The 31 members of the cooperative are harvesting according to the trained sustainable pruning techniques and with the established environmental sustainability standard in collaboration together with ICMBio. In partnership with Vale, Vegeflora is supporting a structure (-base") inside of Flona with a driver to help the harvesters with food and logistics. Reforesting projects with jaborandi, on the mining area that Vale operates, is being implemented.

During the harvest the company maintains periodic contact with the collectors (in Carajás and Cocais this support is daily and in Xingu once a month). At the end of the harvest there is a meeting for evaluating and validating the production report in each of the zones (in Xingu this meeting will occur this year for the first time). Vegeflora intends to expand its activities to Maranhão, currently in the initial development phase.61

---

### Selected Exporters of Jaborandi Ingredients

- **Brazilian Forest** [http://www.brazilianforest.com.br](http://www.brazilianforest.com.br)
- **Centroflora Group** [www.centroflora.com.br](http://www.centroflora.com.br)
- **Hervaquímica Indústria E Comércio Ltda** [http://www.hervaquilica.com.br](http://www.hervaquilica.com.br)
- **NU Fruits** [http://www.nufruits.com](http://www.nufruits.com)
- **Quimer Ervas e Especiarias** [http://www.quimer.com.br](http://www.quimer.com.br)
- **Santosflora** [http://www.santosflora.com.br](http://www.santosflora.com.br)
- **Yerbalatina Phytoactives** [http://www.yerbalatina.com](http://www.yerbalatina.com)

---

BOTANICAL PRODUCT SPECIFICATIONS
Jaborandi tincture
a product of Brazil

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>Jaborandi tinctura 82</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botanical name</td>
<td>Pilocarpus microphyllus Stapf - RUTACEAE</td>
</tr>
<tr>
<td>Pharmacopoeial name</td>
<td>Jaborandi tinctura FB</td>
</tr>
<tr>
<td>Part used</td>
<td>Dried leaves</td>
</tr>
<tr>
<td>Type of extraction</td>
<td>Maceration or percolation using ethanol 65% (v/v) as extraction solvent</td>
</tr>
<tr>
<td>Drug-to-extract ratio</td>
<td>1:10 (w/v); 10 mL of dried leaf / 1 g tincture</td>
</tr>
<tr>
<td>Storage</td>
<td>In well closed amber glass containers, protected from light and heat.</td>
</tr>
</tbody>
</table>

CHARACTERISTICS – Organoleptic

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Greenish to yellowish brown</td>
</tr>
<tr>
<td>Odor</td>
<td>Pleasantly aromatic</td>
</tr>
<tr>
<td>Taste</td>
<td>Bitter</td>
</tr>
</tbody>
</table>

TESTS

<table>
<thead>
<tr>
<th>Identification</th>
<th>A. Color reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B. Thin-layer chromatography (FB 5.2.17.1)</td>
</tr>
<tr>
<td>Dry residue</td>
<td>Minimum 0.8% (FB 5.4.3.2.2)</td>
</tr>
<tr>
<td>Ethanol content</td>
<td>65 ± 5% (v/v) (FB 5.3.3.8.1)</td>
</tr>
<tr>
<td>Pilocarpine content</td>
<td>Minimum 0,06% of total alkaloids expressed as pilocarpine (C_{11}H_{16}N_{2}O_{2}; M 208,26).</td>
</tr>
</tbody>
</table>

MICROBIOLOGICAL QUALITY

| Total aerobic count    | NMT 10^4 cfu/gr |
| Yeast and moulds       | NMT 10^3 cfu/gr |

BOTANICAL EXTRACTS (indicative bulk prices)

<table>
<thead>
<tr>
<th>Product</th>
<th>Standard</th>
<th>Origin</th>
<th>Price USD/kg</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat's claw bark dry extract</td>
<td>1.0-1.5% total alkaloids by HPLC</td>
<td>Brazil</td>
<td>31.75</td>
<td>FOB export</td>
</tr>
<tr>
<td>(Uncaria tomentosa)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guarana seed</td>
<td>12% caffeine (added caffeine from coffee bean)</td>
<td>Brazil</td>
<td>16.9</td>
<td>FOB CA</td>
</tr>
<tr>
<td>(Paulinia cupana)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maté leaf powdered extract</td>
<td>4:1 (w/w)</td>
<td>Brazil</td>
<td>15</td>
<td>FOB origin</td>
</tr>
<tr>
<td>(Ilex paraguariensis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pau d'arco bark dry extract</td>
<td>4:1 (w/w)</td>
<td>Brazil</td>
<td>18</td>
<td>FOB origin</td>
</tr>
<tr>
<td>(Tabebuia impetiginosa)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Certified organic

Notes:
Quality Standards: Standards for some of the above listed botanicals and extracts may be published in the Farmacopeia Argentina, Farmacopéia Brasileira, Farmacopea Herbolaria de los Estados Unidos Mexicanos (FHEUM), and/or in United States Pharmacopeia and National Formulary (USP-NF).
MEETINGS AND TRADE SHOWS
SOUTH AMERICAN COUNTRIES

September 28-30, 2011
PERU NATURA 2011 (co-located with Expocolimunaria Perú 2011)
Venue: Cuartel General del Ejército - Pentagonito. Lima, Perú
Organizer: PROMPERU - PERUBIODIVERSO
WEB: http://www.biocomercioperu.org

Exhibitor profile: Suppliers of natural food ingredients, nutraceutical and dietary supplement components and medicinal plants and extracts.

October 5-7, 2011
BIOFACH AMERICA LATINA 2011
Venue: Transamérica Expo Center, Av. Dr. Mario Villas Boas Rodrigues, 387 - Santo Amaro, São Paulo, Brazil
Contact: Planeta Orgânico Urquiza, 67 loja 08 – Leblon Rio de Janeiro – RJ – 22431-040
TEL: +55 21 22 39 23 95 / FAX: +55 21 25 40 77 07
or NürnbergMesse GmbH, Messezentrum 1, 90471 Nürnberg. TEL: +49 (0) 911 8606 8692
E-MAIL: Carla Alves e Alvaro Werneck expositor@planetaorganico.com.br or Ms Miriam Hempel biofach-globally@nuernbergmesse.de
WEB: http://www.biofach-americalatina.com.br

Exhibitor profile: Although BioFach is primarily a trade show with exhibitors of organic finished natural products, there are a few suppliers of bulk natural ingredients including organic herbs and spices, essential oils, açaí pulp, cacao powder, coffee, tea, dried fruits and fruit juice concentrates, nuts, honey, pollen and propolis.

September 18-20, 2012
FOOD INGREDIENTS SOUTH AMERICA 2012
Venue: Expo Center Norte, São Paulo Brasil
Organizer: CMP Information, a division of United Business Media
Contact: Mr. Cassiano Facchinetti, Event Manager. Alameda Tocantins, 75-14° andar-sla 1401. Alphaville – Barueri – SP 06455-020 Brazil.
TEL: +55 11 4689 1935 ext. 2094
FAX: +55 11 4689 1926
E-MAIL: cfacc@ubmbrazil.com.br
WEB: http://fi-southamerica.ingredientsnetwork.com/home

Exhibitor profile: Though mainly a show with suppliers of food ingredients, some of the exhibitors offer natural botanical ingredients made from medicinal and aromatic plants. Exhibitors of botanical ingredients will include Fortitech, Mafco, Naturex, and Tradal Brazil, among others.

October 14, 2012
III INTERNATIONAL SYMPOSIUM ON MEDICINAL AND NUTRACEUTICAL PLANTS AND III CONFERENCE OF NATIONAL INSTITUTE OF TROPICAL FRUITS
Venue: Brazil
Contact: Prof. Dr. Narendra Narain, Departamento de Engenharia CCET, Univ Federal de Sergipe, Cidade Universitaria, 49100-000 Sao Cristovao-Sergipe.
TEL: +55 79 2105 6677 / FAX: +55 79 2105 5579
E-MAIL: 3ismnp@gmail.com
<table>
<thead>
<tr>
<th>HERB OR EXTRACT</th>
<th>REGION</th>
<th>MNS EDITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia gummy exudate</td>
<td>Africa</td>
<td>MNS 24 – September 2007</td>
</tr>
<tr>
<td>Açai fruit dry extract</td>
<td>South America</td>
<td>MNS 25 – December 2007</td>
</tr>
<tr>
<td>Ajowan fruit</td>
<td>India</td>
<td>MNS 37 – December 2010</td>
</tr>
<tr>
<td>Aloe ferox bitter powder</td>
<td>Africa</td>
<td>MNS 40 – September 2011</td>
</tr>
<tr>
<td>Althaea flower</td>
<td>China / Korea</td>
<td>MNS 29 – December 2008</td>
</tr>
<tr>
<td>Ambrette seed</td>
<td>India</td>
<td>MNS 29 – December 2008</td>
</tr>
<tr>
<td>American ginseng root PE</td>
<td>North America</td>
<td>MNS 5 – December 2002</td>
</tr>
<tr>
<td>American storax balsam</td>
<td>North America</td>
<td>MNS 24 – September 2007</td>
</tr>
<tr>
<td>Amla fruit PE</td>
<td>India</td>
<td>MNS 16 – September 2005</td>
</tr>
<tr>
<td>Andrographis herb PE</td>
<td>India</td>
<td>MNS 3 – June 2002</td>
</tr>
<tr>
<td>Arnica flower SE</td>
<td>Western Europe</td>
<td>MNS 1 – September 2001</td>
</tr>
<tr>
<td>Aronia fruit juice concentrate</td>
<td>Eastern Europe</td>
<td>MNS 25 – December 2007</td>
</tr>
<tr>
<td>Artemisia Essential Oil</td>
<td>India / Nepal</td>
<td>MNS 14 – March 2005</td>
</tr>
<tr>
<td>Artichoke leaf PE</td>
<td>Western Europe</td>
<td>MNS 6 – March 2003</td>
</tr>
<tr>
<td>Artichoke leaf</td>
<td>Africa</td>
<td>MNS 30 – March 2009</td>
</tr>
<tr>
<td>Asafetida oleo-gum-resin</td>
<td>India</td>
<td>MNS 24 – September 2007</td>
</tr>
<tr>
<td>Ashwagandha root</td>
<td>India</td>
<td>MNS 28 – September 2008</td>
</tr>
<tr>
<td>Ashwagandha root PE</td>
<td>India</td>
<td>MNS 5 – December 2002</td>
</tr>
<tr>
<td>American ginseng root</td>
<td>North America</td>
<td>MNS 28 – September 2008</td>
</tr>
<tr>
<td>Asian ginseng root PE</td>
<td>Japan</td>
<td>MNS 4 – September 2002</td>
</tr>
<tr>
<td>Bacopa herb PE</td>
<td>India</td>
<td>MNS 11 – June 2004</td>
</tr>
<tr>
<td>Baobab fruit PE</td>
<td>Africa</td>
<td>MNS 25 – September 2007</td>
</tr>
<tr>
<td>Benzoin tincture, compound</td>
<td>North America</td>
<td>MNS 23 - June 2007</td>
</tr>
<tr>
<td>Bilberry fruit</td>
<td>Eastern Europe</td>
<td>MNS 16 – September 2005</td>
</tr>
<tr>
<td>Birch leaf</td>
<td>Eastern Europe</td>
<td>MNS 21 – December 2006</td>
</tr>
<tr>
<td>Bitter orange fruit PE</td>
<td>China</td>
<td>MNS 21 – December 2006</td>
</tr>
<tr>
<td>Black cohosh extract USP</td>
<td>North America</td>
<td>MNS 36 – September 2010</td>
</tr>
<tr>
<td>Black cohosh rhizome PE</td>
<td>North America</td>
<td>MNS 4 – September 2002</td>
</tr>
<tr>
<td>Black currant dry extract</td>
<td>Western Europe</td>
<td>MNS 17 – December 2005</td>
</tr>
<tr>
<td>Bladderwrack thallus</td>
<td>Canada</td>
<td>MNS 20 – September 2006</td>
</tr>
<tr>
<td>Boldo leaf</td>
<td>South America</td>
<td>MNS 30 – March 2009</td>
</tr>
<tr>
<td>Boldo leaf dry extract</td>
<td>South America</td>
<td>MNS 34 – March 2010</td>
</tr>
<tr>
<td>Boswellia serrata PE</td>
<td>India</td>
<td>MNS 9 – December 2003</td>
</tr>
<tr>
<td>Buchu leaf</td>
<td>South Africa</td>
<td>MNS 33 – December 2009</td>
</tr>
<tr>
<td>Calendula tincture</td>
<td>Eastern Europe</td>
<td>MNS 23 – June 2007</td>
</tr>
<tr>
<td>California poppy herb</td>
<td>North America</td>
<td>MNS 18 – March 2006</td>
</tr>
<tr>
<td>Camphor, natural</td>
<td>China</td>
<td>MNS 27 – June 2008</td>
</tr>
<tr>
<td>Camu camu dry extract</td>
<td>South America</td>
<td>MNS 39 – June 2011</td>
</tr>
<tr>
<td>Candelilla wax</td>
<td>North America</td>
<td>MNS 40 – September 2011</td>
</tr>
<tr>
<td>Capsicum oleoresin</td>
<td>South America</td>
<td>MNS 37 – December 2010</td>
</tr>
<tr>
<td>Caralluma extract</td>
<td>India</td>
<td>MNS 21 – December 2006</td>
</tr>
<tr>
<td>Caraway fruit</td>
<td>Africa</td>
<td>MNS 35 – June 2010</td>
</tr>
<tr>
<td>Carob bean gum</td>
<td>Europe</td>
<td>MNS 37 – December 2010</td>
</tr>
<tr>
<td>Cascara sagrada dry extract</td>
<td>North America</td>
<td>MNS 34 – March 2010</td>
</tr>
<tr>
<td>Cat’s claw bark dry extract</td>
<td>South America</td>
<td>MNS 26 – March 2008</td>
</tr>
<tr>
<td>Cat’s claw extract USP</td>
<td>South America</td>
<td>MNS 36 – September 2010</td>
</tr>
<tr>
<td>Chá-de-bugre dry extract</td>
<td>South America</td>
<td>MNS 21 – December 2006</td>
</tr>
<tr>
<td>Chamomile flower</td>
<td>Africa</td>
<td>MNS 31 – June 2009</td>
</tr>
<tr>
<td>Chaste tree fruit</td>
<td>Eastern Europe</td>
<td>MNS 9 – December 2003</td>
</tr>
<tr>
<td>Chaste tree fruit</td>
<td>Africa</td>
<td>MNS 16 – September 2005</td>
</tr>
<tr>
<td>Chaste tree fruit extract</td>
<td>Western Europe</td>
<td>MNS 16 – September 2005</td>
</tr>
<tr>
<td>Chinese asafetida resin</td>
<td>China</td>
<td>MNS 24 – September 2007</td>
</tr>
<tr>
<td>Chinese cinnamon bark</td>
<td>China</td>
<td>MNS 19 – June 2006</td>
</tr>
<tr>
<td>Chinese hawthorn fruit PE</td>
<td>China</td>
<td>MNS 1: Sept 2001 / MNS 16: Sept 2005</td>
</tr>
<tr>
<td>Chinese lovage rhizome</td>
<td>China</td>
<td>MNS 36 – September 2010</td>
</tr>
<tr>
<td>Product</td>
<td>Origin</td>
<td>Batch Code</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Chrysanthemum flower</td>
<td>China</td>
<td>MNS 40 – September 2011</td>
</tr>
<tr>
<td>Cinnamon bark PE</td>
<td>China</td>
<td>MNS 13 – December 2004</td>
</tr>
<tr>
<td>Citronella essential Oil</td>
<td>India, Sri Lanka</td>
<td>MNS 27 – June 2008</td>
</tr>
<tr>
<td>Clove bud tincture</td>
<td>India</td>
<td>MNS 23 – June 2007</td>
</tr>
<tr>
<td>Cocoa butter</td>
<td>South America</td>
<td>MNS 27 – June 2008</td>
</tr>
<tr>
<td>Cola nut</td>
<td>Africa</td>
<td>MNS 7 – June 2003</td>
</tr>
<tr>
<td>Cola nut dry extract</td>
<td>Western Europe</td>
<td>MNS 21 – December 2006</td>
</tr>
<tr>
<td>Coriander fruit</td>
<td>Europe</td>
<td>MNS 34 – March 2010</td>
</tr>
<tr>
<td>Coriander fruit essential oil</td>
<td>North America</td>
<td>MNS 12 – September 2004</td>
</tr>
<tr>
<td>Corydalis Yanhusuo tuber</td>
<td>China</td>
<td>MNS 18 – March 2006</td>
</tr>
<tr>
<td>Cottonseed oil</td>
<td>North America</td>
<td>MNS 29 – December 2008</td>
</tr>
<tr>
<td>Cranberry fruit dry conc</td>
<td>North America</td>
<td>MNS 16 – September 2005</td>
</tr>
<tr>
<td>Cranberry juice extract</td>
<td>North America</td>
<td>MNS 37 – December 2010</td>
</tr>
<tr>
<td>Cranberry liquid preparation</td>
<td>North America</td>
<td>MNS 33 – December 2009</td>
</tr>
<tr>
<td>Cupuacu fruit powder</td>
<td>South America</td>
<td>MNS 29 – December 2008</td>
</tr>
<tr>
<td>Damask rose flower</td>
<td>India and other Asia</td>
<td>MNS 39 – June 2011</td>
</tr>
<tr>
<td>Damask rose essential Oil</td>
<td>Eastern Europe</td>
<td>MNS 17 – December 2005</td>
</tr>
<tr>
<td>Dandelion root</td>
<td>Europe</td>
<td>MNS 30 – March 2009</td>
</tr>
<tr>
<td>Danggui root PE</td>
<td>China</td>
<td>MNS 12 – September 2004</td>
</tr>
<tr>
<td>Devil's claw root PE</td>
<td>Western Europe</td>
<td>MNS 3 – June 2002</td>
</tr>
<tr>
<td>Devil’s claw root tuber</td>
<td>Africa</td>
<td>MNS 36 – September 2010</td>
</tr>
<tr>
<td>Dhatura seed</td>
<td>India</td>
<td>MNS 32 – September 2009</td>
</tr>
<tr>
<td>Echinacea herb &amp; root PE</td>
<td>North America</td>
<td>MNS 8 – September 2003</td>
</tr>
<tr>
<td>Echinacea root PE</td>
<td>Western Europe</td>
<td>MNS 12 – September 2004</td>
</tr>
<tr>
<td>Eleuthero root</td>
<td>Europe</td>
<td>MNS 28 – September 2008</td>
</tr>
<tr>
<td>Eleuthero root PE</td>
<td>China</td>
<td>MNS 11 – June 2004</td>
</tr>
<tr>
<td>English lavender flower</td>
<td>Europe</td>
<td>MNS 31 – June 2009</td>
</tr>
<tr>
<td>Ephedra herb</td>
<td>China</td>
<td>MNS 26 – March 2008</td>
</tr>
<tr>
<td>Epimedium herb PE</td>
<td>China</td>
<td>MNS 15 – June 2005</td>
</tr>
<tr>
<td>Eucalyptus oil</td>
<td>Europe</td>
<td>MNS 32 – September 2009</td>
</tr>
<tr>
<td>European elder flower</td>
<td>Europe</td>
<td>MNS 38 – March 2011</td>
</tr>
<tr>
<td>European vervain</td>
<td>Africa</td>
<td>MNS 15 – June 2005</td>
</tr>
<tr>
<td>Evening primrose oil</td>
<td>North America</td>
<td>MNS 39 – June 2011</td>
</tr>
<tr>
<td>Fennel fruit</td>
<td>Africa</td>
<td>MNS 9 – December 2003</td>
</tr>
<tr>
<td>Fennel fruit, sweet</td>
<td>Africa</td>
<td>MNS 34 – March 2010</td>
</tr>
<tr>
<td>Fenugreek seed</td>
<td>Africa</td>
<td>MNS 12 – September 2004</td>
</tr>
<tr>
<td>Fenugreek seed PE</td>
<td>India</td>
<td>MNS 12 – September 2004</td>
</tr>
<tr>
<td>Feverfew leaf PE</td>
<td>Western Europe</td>
<td>MNS 2 – March 2002</td>
</tr>
<tr>
<td>Fig fruit</td>
<td>Iran</td>
<td>MNS 33 – December 2009</td>
</tr>
<tr>
<td>Flax seed</td>
<td>North America</td>
<td>MNS 9 – December 2003</td>
</tr>
<tr>
<td>Garcinia fruit extract</td>
<td>India</td>
<td>MNS 15 – June 2005</td>
</tr>
<tr>
<td>Garlic bulb granules</td>
<td>North America</td>
<td>MNS 15 – June 2005</td>
</tr>
<tr>
<td>Garlic bulb PE</td>
<td>China</td>
<td>MNS 9 – December 2003</td>
</tr>
<tr>
<td>Garlic bulb PE</td>
<td>North America</td>
<td>MNS 22 – March 2007</td>
</tr>
<tr>
<td>Garlic oil macerate</td>
<td>Western Europe</td>
<td>MNS 22 – March 2007</td>
</tr>
<tr>
<td>Ginger rhizome</td>
<td>China</td>
<td>MNS 35 – June 2010</td>
</tr>
<tr>
<td>Ginger rhizome PE</td>
<td>China</td>
<td>MNS 4 – September 2002</td>
</tr>
<tr>
<td>Ginkgo leaf PE</td>
<td>Japan</td>
<td>MNS 5 – December 2002</td>
</tr>
<tr>
<td>Goldenseal rhizome</td>
<td>North America</td>
<td>MNS 2 – March 2002</td>
</tr>
<tr>
<td>Gotu kola herb PE</td>
<td>India</td>
<td>MNS 4 – September 2002</td>
</tr>
<tr>
<td>Gotu kola herb PE</td>
<td>Africa</td>
<td>MNS 27 – June 2008</td>
</tr>
<tr>
<td>Grape fruit PE</td>
<td>Eastern Europe</td>
<td>MNS 5 – December 2002</td>
</tr>
<tr>
<td>Greater celandine herb</td>
<td>Eastern Europe</td>
<td>MNS 18 – March 2006</td>
</tr>
<tr>
<td>Greater galangal rhizome</td>
<td>India</td>
<td>MNS 36 – September 2010</td>
</tr>
<tr>
<td>Green tea leaf PE</td>
<td>China</td>
<td>MNS 2 – March 2002</td>
</tr>
<tr>
<td>Green tea leaf PE</td>
<td>China</td>
<td>MNS 23 – June 2007</td>
</tr>
<tr>
<td>Griffonia seed</td>
<td>Africa</td>
<td>MNS 8 – September 2003</td>
</tr>
<tr>
<td>Guarana seed PE</td>
<td>Western Europe</td>
<td>MNS 9 – December 2003</td>
</tr>
<tr>
<td>Item</td>
<td>Origin</td>
<td>MNS Dates</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Guar gum</td>
<td>India</td>
<td>MNS 35 – June 2010</td>
</tr>
<tr>
<td>Guggul resin PE</td>
<td>India</td>
<td>MNS 1: Sept 2001 / MNS 6: March 2003</td>
</tr>
<tr>
<td>Gynostemma herb PE</td>
<td>China</td>
<td>MNS 10 – March 2004</td>
</tr>
<tr>
<td>Henna leaf</td>
<td>Africa</td>
<td>MNS 13 – December 2004</td>
</tr>
<tr>
<td>Holarrhena bark / root</td>
<td>Africa</td>
<td>MNS 14 – March 2005</td>
</tr>
<tr>
<td>Hoodia gordonii extract</td>
<td>Africa</td>
<td>MNS 21 – December 2006</td>
</tr>
<tr>
<td>Hop strobile</td>
<td>Europe</td>
<td>MNS 35 – June 2010</td>
</tr>
<tr>
<td>Hop strobile PE</td>
<td>North America</td>
<td>MNS 10 – March 2004</td>
</tr>
<tr>
<td>Iceland moss</td>
<td>Eastern Europe</td>
<td>MNS 20 – September 2006</td>
</tr>
<tr>
<td>Indian frankincense extract</td>
<td>Eastern Europe</td>
<td>MNS 24 – September 2007</td>
</tr>
<tr>
<td>Ipecac rhizome</td>
<td>South America</td>
<td>MNS 38 – March 2011</td>
</tr>
<tr>
<td>Ivy leaf PE</td>
<td>Western Europe</td>
<td>MNS 13 – December 2004</td>
</tr>
<tr>
<td>Jborahandi tincture</td>
<td>South America</td>
<td>MNS 40 – September 2011</td>
</tr>
<tr>
<td>Jamaica quassia stem wood</td>
<td>North America</td>
<td>MNS 32 – September 2009</td>
</tr>
<tr>
<td>Japanese honeysuckle leaf/stem</td>
<td>China, Japan, Korea</td>
<td>MNS 38 – March 2011</td>
</tr>
<tr>
<td>Juniper fruit Essential Oil</td>
<td>Eastern Europe</td>
<td>MNS 10 – March 2004</td>
</tr>
<tr>
<td>Juniper tar</td>
<td>Europe</td>
<td>MNS 27 – June 2008</td>
</tr>
<tr>
<td>Khella fruit</td>
<td>Africa</td>
<td>MNS 26 – March 2008</td>
</tr>
<tr>
<td>Kohki leaf</td>
<td>Japan</td>
<td>MNS 3 – June 2002</td>
</tr>
<tr>
<td>Labdanum gum resinoid</td>
<td>Western Europe</td>
<td>MNS 24 – September 2007</td>
</tr>
<tr>
<td>Lavender flower</td>
<td>Europe</td>
<td>MNS 40 – September 2011</td>
</tr>
<tr>
<td>Lavender flower essential oil</td>
<td>Eastern Europe</td>
<td>MNS 12 – September 2004</td>
</tr>
<tr>
<td>Lemon balm leaf PE</td>
<td>Western Europe</td>
<td>MNS 7 – June 2003</td>
</tr>
<tr>
<td>Lemon peel essential oil</td>
<td>North America</td>
<td>MNS 35 – June 2010</td>
</tr>
<tr>
<td>Lemon verbena leaf</td>
<td>South America</td>
<td>MNS 33 – December 2009</td>
</tr>
<tr>
<td>Licorice root PE</td>
<td>China</td>
<td>MNS 3 – June 2002</td>
</tr>
<tr>
<td>Licorice root</td>
<td>Other Asian Countries</td>
<td>MNS 30 – March 2009</td>
</tr>
<tr>
<td>Licorice root PE</td>
<td>Japan</td>
<td>MNS 1 – September 2001</td>
</tr>
<tr>
<td>Linden (Lime) flower</td>
<td>Europe</td>
<td>MNS 39 – June 2011</td>
</tr>
<tr>
<td>Long-stamen onion bulb</td>
<td>China</td>
<td>MNS 22 – March 2007</td>
</tr>
<tr>
<td>Lycium fruit freeze-dried pwd</td>
<td>China</td>
<td>MNS 37 – December 2010</td>
</tr>
<tr>
<td>Maca hypocotyl PE</td>
<td>Peru</td>
<td>MNS 17 – December 2005</td>
</tr>
<tr>
<td>Maritime pine bark</td>
<td>Western Europe</td>
<td>MNS 19 – June 2006</td>
</tr>
<tr>
<td>Marshmallow root</td>
<td>Europe</td>
<td>MNS 29 – December 2008</td>
</tr>
<tr>
<td>Maté leaf</td>
<td>South America</td>
<td>MNS 35 – June 2010</td>
</tr>
<tr>
<td>Maté leaf PE</td>
<td>Western Europe</td>
<td>MNS 8 – September 2003</td>
</tr>
<tr>
<td>Meadowsweet herb</td>
<td>Eastern Europe</td>
<td>MNS 13 – December 2004</td>
</tr>
<tr>
<td>Milk thistle fruit</td>
<td>Africa</td>
<td>MNS 38 – March 2011</td>
</tr>
<tr>
<td>Milk thistle fruit PE</td>
<td>Eastern Europe</td>
<td>MNS 1: September 2001 / MNS 7: June 2003</td>
</tr>
<tr>
<td>Molokhia leaf</td>
<td>Africa</td>
<td>MNS 29 – December 2008</td>
</tr>
<tr>
<td>Myrrh gum resin</td>
<td>Asia (Yemen)</td>
<td>MNS 38 – March 2011</td>
</tr>
<tr>
<td>Myrrh tincture</td>
<td>Africa</td>
<td>MNS 23 – June 2007</td>
</tr>
<tr>
<td>Neem leaf PE</td>
<td>India</td>
<td>MNS 7 – June 2003</td>
</tr>
<tr>
<td>Nettle root</td>
<td>Eastern Europe</td>
<td>MNS 15 – June 2005</td>
</tr>
<tr>
<td>Nettle root PE</td>
<td>Western Europe</td>
<td>MNS 4 – December 2002</td>
</tr>
<tr>
<td>Nigella seed</td>
<td>India</td>
<td>MNS 26 – March 2008</td>
</tr>
<tr>
<td>Noni fruit PE</td>
<td>India</td>
<td>MNS 25 – December 2007</td>
</tr>
<tr>
<td>Nutmeg kernel</td>
<td>Indonesia</td>
<td>MNS 39 – June 2011</td>
</tr>
<tr>
<td>Olive leaf PE</td>
<td>Western Europe</td>
<td>MNS 11 – June 2004</td>
</tr>
<tr>
<td>Onion essential oil</td>
<td>Africa</td>
<td>MNS 22 - March 2007</td>
</tr>
<tr>
<td>Onion juice concentrate, pwd</td>
<td>Eastern Europe</td>
<td>MNS 22 – March 2007</td>
</tr>
<tr>
<td>Onion oleoresin</td>
<td>India</td>
<td>MNS 22 – March 2007</td>
</tr>
<tr>
<td>Opium poppy latex</td>
<td>India</td>
<td>MNS 18 – March 2006</td>
</tr>
<tr>
<td>Oregon grape root</td>
<td>North America</td>
<td>MNS 30 – March 2009</td>
</tr>
<tr>
<td>Parmelia lichen extract</td>
<td>India / Nepal</td>
<td>MNS 20 – September 2006</td>
</tr>
<tr>
<td>Passionflower</td>
<td>North America</td>
<td>MNS 31 – June 2009</td>
</tr>
<tr>
<td>Herb</td>
<td>Origin</td>
<td>Code</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>----------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Passionflower PE</td>
<td>South America</td>
<td>MNS 31 – June 2009</td>
</tr>
<tr>
<td>Peony root</td>
<td>Japan</td>
<td>MNS 2 – March 2002</td>
</tr>
<tr>
<td>Pepper fruit PE</td>
<td>India</td>
<td>MNS 13 – December 2004</td>
</tr>
<tr>
<td>Peppermint leaf Essential Oil</td>
<td>North America</td>
<td>MNS 11 – June 2004</td>
</tr>
<tr>
<td>Pleurisy root</td>
<td>North America</td>
<td>MNS 26 – June 2008</td>
</tr>
<tr>
<td>Pomegranate fruit PE</td>
<td>Western Europe</td>
<td>MNS 14 – March 2005</td>
</tr>
<tr>
<td>Pomegranate juice powder</td>
<td>Africa</td>
<td>MNS 37 – December 2010</td>
</tr>
<tr>
<td>Psyllium husk</td>
<td>India</td>
<td>MNS 10 – March 2004</td>
</tr>
<tr>
<td>Pygeum bark</td>
<td>Africa</td>
<td>MNS 19 – June 2006</td>
</tr>
<tr>
<td>Pyrethrum flower extract</td>
<td>Africa</td>
<td>MNS 32 – September 2009</td>
</tr>
<tr>
<td>Rauwolfia root</td>
<td>India</td>
<td>MNS 40 – September 2011</td>
</tr>
<tr>
<td>Red clover herb PE</td>
<td>North America</td>
<td>MNS 6 – March 2003</td>
</tr>
<tr>
<td>Red poppy extract</td>
<td>Western Europe</td>
<td>MNS 18 – March 2006</td>
</tr>
<tr>
<td>Red poppy petals</td>
<td>Africa</td>
<td>MNS 18 – March 2006</td>
</tr>
<tr>
<td>Reishi mushroom PE</td>
<td>China</td>
<td>MNS 5 – December 2002</td>
</tr>
<tr>
<td>Rhatany root FE</td>
<td>North America</td>
<td>MNS 14 – March 2005</td>
</tr>
<tr>
<td>Rhatany tincture</td>
<td>Western Europe</td>
<td>MNS 23 – June 2007</td>
</tr>
<tr>
<td>Rhodiola root</td>
<td>China</td>
<td>MNS 28 – September 2008</td>
</tr>
<tr>
<td>Rhubarb root dry extract</td>
<td>China</td>
<td>MNS 34 – March 2010</td>
</tr>
<tr>
<td>Rooibos leaf PE</td>
<td>Western Europe</td>
<td>MNS 15 – June 2005</td>
</tr>
<tr>
<td>Rosemary leaf Essent Oil</td>
<td>Africa</td>
<td>MNS 10 – March 2004</td>
</tr>
<tr>
<td>Rosemary leaf</td>
<td>North America</td>
<td>MNS 1 – September 2001</td>
</tr>
<tr>
<td>Safed musli root</td>
<td>India</td>
<td>MNS 17 – December 2005</td>
</tr>
<tr>
<td>Saffron style and stigma</td>
<td>India</td>
<td>MNS 31 – June 2009</td>
</tr>
<tr>
<td>Sage leaf</td>
<td>Eastern Europe</td>
<td>MNS 8 – September 2003</td>
</tr>
<tr>
<td>Saigon cinnamon bark</td>
<td>Viet Nam</td>
<td>MNS 33 – December 2009</td>
</tr>
<tr>
<td>Sandalwood heart wood</td>
<td>India</td>
<td>MNS 19 – June 2006</td>
</tr>
<tr>
<td>Sargassum thallus</td>
<td>China</td>
<td>MNS 20 – September 2006</td>
</tr>
<tr>
<td>Sarsaparilla rhizome</td>
<td>North America</td>
<td>MNS 38 – March 2011</td>
</tr>
<tr>
<td>Saw palmetto fruit SE</td>
<td>North America</td>
<td>MNS 3 – June 2002</td>
</tr>
<tr>
<td>Schisandra fruit PE</td>
<td>China</td>
<td>MNS 6 – March 2003</td>
</tr>
<tr>
<td>Schisandra fruit, Southern</td>
<td>China</td>
<td>MNS 30 – March 2009</td>
</tr>
<tr>
<td>Seabuckthorn fruit PE</td>
<td>China</td>
<td>MNS 7 – June 2003</td>
</tr>
<tr>
<td>Seabuckthorn pulp extract</td>
<td>Western Europe</td>
<td>MNS 25 – December 2007</td>
</tr>
<tr>
<td>Senna leaf dry extract</td>
<td>India</td>
<td>MNS 34 – March 2010</td>
</tr>
<tr>
<td>Senna pod</td>
<td>Africa</td>
<td>MNS 6 – March 2003</td>
</tr>
<tr>
<td>Senna pod &amp; leaf PE</td>
<td>India</td>
<td>MNS 8 – September 2003</td>
</tr>
<tr>
<td>Slippery elm bark</td>
<td>North America</td>
<td>MNS 19 – June 2006</td>
</tr>
<tr>
<td>Soursop leaf PE</td>
<td>South America</td>
<td>MNS 32 – September 2009</td>
</tr>
<tr>
<td>Spearmint leaf</td>
<td>Africa</td>
<td>MNS 11 – June 2004</td>
</tr>
<tr>
<td>St. John’s wort herb</td>
<td>China</td>
<td>MNS 31 – June 2009</td>
</tr>
<tr>
<td>St. John’s wort herb PE</td>
<td>Western Europe</td>
<td>MNS 10 – March 2004</td>
</tr>
<tr>
<td>Stemona root</td>
<td>China</td>
<td>MNS 32 – September 2009</td>
</tr>
<tr>
<td>Suma root</td>
<td>South America</td>
<td>MNS 28 – September 2008</td>
</tr>
<tr>
<td>Sutherlandia herb</td>
<td>Africa</td>
<td>MNS 28 – September 2008</td>
</tr>
<tr>
<td>Sweet wormwood herb EO</td>
<td>Eastern Europe</td>
<td>MNS 14 – March 2005</td>
</tr>
<tr>
<td>Sweet wormwood leaf PE</td>
<td>China</td>
<td>MNS 14 – March 2005</td>
</tr>
<tr>
<td>Thyme herb</td>
<td>Europe</td>
<td>MNS 26 – March 2008</td>
</tr>
<tr>
<td>Tribulus fruit PE</td>
<td>China</td>
<td>MNS 17 – December 2005</td>
</tr>
<tr>
<td>Tribulus fruit PE</td>
<td>India</td>
<td>MNS 2 – March 2002</td>
</tr>
<tr>
<td>Tribulus root PE</td>
<td>Eastern Europe</td>
<td>MNS 6 – March 2003</td>
</tr>
<tr>
<td>Usnea lichen extract</td>
<td>Western Europe</td>
<td>MNS 20 – September 2006</td>
</tr>
<tr>
<td>Uva ursi leaf PE</td>
<td>Eastern Europe</td>
<td>MNS 2 – March 2002</td>
</tr>
<tr>
<td>Valerian root</td>
<td>Eastern Europe</td>
<td>MNS 3 – June 2002</td>
</tr>
<tr>
<td>Valerian root PE</td>
<td>Eastern Europe</td>
<td>MNS 4 – September 2002</td>
</tr>
<tr>
<td>White tea leaf PE</td>
<td>China</td>
<td>MNS 8 – September 2003</td>
</tr>
<tr>
<td>Wild cherry bark FE</td>
<td>North America</td>
<td>MNS 13 – December 2004</td>
</tr>
<tr>
<td>Wild yam root PE</td>
<td>North America</td>
<td>MNS 7 – June 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td><strong>Willow bark</strong></td>
<td>Eastern Europe</td>
<td>MNS 19 – June 2006</td>
</tr>
<tr>
<td><strong>Willow bark PE</strong></td>
<td>Western Europe</td>
<td>MNS 5 – December 2002</td>
</tr>
<tr>
<td><strong>Witch hazel</strong></td>
<td>North America</td>
<td>MNS 27 – June 2008</td>
</tr>
<tr>
<td><strong>Wolfberry PE</strong></td>
<td>China</td>
<td>MNS 25 – December 2007</td>
</tr>
<tr>
<td><strong>Yarrow herb Essential Oil</strong></td>
<td>Eastern Europe</td>
<td>MNS 11 – June 2004</td>
</tr>
</tbody>
</table>
LINKS TO SUSTAINABILITY STANDARDS AND GUIDANCE DOCUMENTS RELEVANT TO THE GLOBAL TRADE OF MEDICINAL AND AROMATIC PLANTS AND EXTRACTS

This section contains links to further information on the various sustainability standards being implemented at medicinal plant harvest sites, standards setting organizations and certification or verification organizations.

It is possible that we are not yet aware of all of the existing sustainability certification or verification systems presently undergoing implementation at medicinal and aromatic plant production sites around the world. To add your contact details, or to update or correct the below-listed details, please contact ITC Consultant, Tasha Goldberg at: tashagoldberg@yahoo.com

Demeter: http://www.demeter.net

- International Demeter Standards Production: http://demeter.net/standards/st_production_e.pdf
- International Demeter Standards Processing: http://demeter.net/standards/st_processing_e.pdf
- Standards for the labeling of Demeter products: http://demeter.net/standards/st_labelling_e.pdf

EcoCert: http://www.ecocert.com

- Other EcoCert Fair Trade documents can be downloaded at: http://appli.ecocert.com/-EFT-.html

Equal Exchange: http://www.equalexchange.coop/domestic-fair-trade


FairWild Foundation: http://www.fairwild.org


FloCert: http://www.flo-cert.net


Forest Stewardship Council: http://www.fsc.org


Instituto Biodinâmico for Rural Development: http://www.ibd.com.br

- IBD EcoSocial Program: http://www.ecosocialnet.com
IBD EcoSocial Certification Program for Fair Relationships in Trading Socially and Environmentally Certified Products:

**NatureLife International Foundation for Environment, Education and Sustainability:**
http://www.sun-cert.com


**Rainforest Alliance:** http://www.rainforest-alliance.org


**Soil Association:** http://www.soilassociation.org/

- Soil Association Ethical Trade Standards:

**Union for Ethical BioTrade:** http://www.uebt.ch

- Guidance for the application of the BioTrade Verification Framework:
- Guidelines for the Development and Implementation of Management Plans for Wild-collected Plant Species used by Organizations Working with Natural Ingredients:
- BioTrade Verification Framework for Native Natural Ingredients:
- UNCTAD BioTrade Initiative BioTrade Principles and Criteria:

**UTZ Certified:** http://www.utzcertified.org

- UTZ Certified Chain of Custody for Tea:
  http://www.utzcertified.org/index.php?pageID=111&showdoc=111_0_82
- UTZ Code of Conduct for Tea Farms / UTZ Code of Conduct for Tea Factories:
  http://www.utzcertified.org/index.php?pageID=111&showdoc=111_0_79

For complete lists of certified or verified operations and/or members of fair trade organizations, see:

- Cooperation for Fair Trade in Africa (COFTA) members list:

- FloCert Fair Trade Certified (FTC) organizations:
  http://www.flo-cert.net/flo-cert/main.php?id=10

- Forest Stewardship Council (FSC) Certificate Database of certified products, species and certificate holders:
  http://info.fsc.org

- IBD EcoSocial Certified/Approved Clients:

- IMO Social & Fairtrade Certification Programme Certified Operators:

- PhytoTrade Africa members list:
  http://www.phytotradeafrica.com/members/ourmembers.asp

- Rainforest Alliance Certified farms list:
  http://sustainablefarmcert.com/certified_farms.cfm
Union for Ethical BioTrade (UEBT) members list: 
http://www.uebt.ch/about/members.html

United Nations Global Compact participants list: 
http://www.unglobalcompact.org/participants/search

UTZ Certified Tea Producers list: 

World Fair Trade Organization (WFTO) members list: 
MNS GLOBAL HERB TRADE ASSOCIATION DIRECTORY

MNS provides a global directory of herb trade associations, collectives, councils, and export promotion organizations that represent the growers, wild collectors, producers, and traders of botanical raw materials, extracts and oils, and other herbal products. To add your association contact details, or to update or correct the below-listed details, please contact ITC Consultant, Tasha Goldberg at: tashagoldberg@yahoo.com

AFRICA

COMORES

E-MAIL: maison.epices@comoretelecom.km / WEB: http://www.epices-comores.com

EGYPT
Egyptian Society for the Producers, Manufacturers and Exporters of Medicinal and Aromatic Plants (ESMAP), Dr. Farouk Elshobaki, 1 Elhefnawy St., Fatma Roshdi St., Elharam, Elgiza. TEL: +202 38 69 898 / FAX: +202 38 41 120 / Mobile: 012 / 3101839, E-MAILdrfarouk@elshobaki.com

WEB: http://www.esmap.org/esmap/

Egyptian Spices and Herbs Export Development Association (ESHEDA), Dr. Farouk Elshobaki, Chairman, 9 Rostom St. Garden City, 1st floor, EG - 11519 Cairo, TEL: 00202/2792 417

E-MAIL: esheda@link.net

Medicinal Plants Association (MPA) in St. Katherine: El-Shamiaa, Saint Katherine City, South Sinai, Egypt. TEL-FAX: +20 69 3470648

WEB: http://www.mpccegypt.com/

Regional Medicinal & Herbal Plants Network (MHPN) of the Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA), Dr. M.S.A. Safwat, P.O. Box 639 – Baga 19381, Amman Jordan. Tel: 00962 6 4725071 / FAX: 00962 6 4726099

E-MAIL: map-aarenina@ncartt.gov.jo

WEB: http://www.aarinena.org/MHPWeb/

Union of Producers and Exporters of Horticultural Crops (UPEHC), 10th floor Organizations and Companies Building, Nadi El-Seid Street, Dokky, Giza, Egypt. TEL: +20 (2) 3337-2402, 3760-0986 / FAX: +20 (2) 3336-4833 & 3336-4899, E-MAIL: mail@upehc.org

WEB: http://www.upehc.org

ETHIOPIA
Ethiopian Pulses, Oil Seeds and Spices Processors Exporters’ Association (EPOSPEA), Haile Gebre-Seassie Avenue, 22 MAzoria, Rebecca bldg. 7th floor. PO BOX 8686 Ethiopia TEL: +251-11 6623556 / FAX: +251 11 6623504

E-MAIL: agroprom@ethionet.et or epospe.association@ethionet.et

WEB: http://www.eahead.net/eapospea/

GHANA
Agribusiness in Sustainable Natural African Plant Products (ASNAPP), P.M.B. (18) Kanda, Accra H/NO C 205/29, Mempesam, East Legon, Accra, Mr. Dan Acquaye. TEL: +233 302 505617/ FAX: +233 302 505617, E-MAIL: asnappwest@yahoo.com

WEB: http://www.asnapp.org

Botanical Products Association of Ghana (BOTPAG)


KENYA
Network for Natural Gums and Resins in Africa (NGARA), Secretariat c/o KEFRI, Karura P.O. Box 64636 – 00620 Mobil Plaza, Nairobi, Kenya. TEL: +254 20 2020623 / FAX: +254 20 3750497.

E-MAIL: info@ngara.org
WEB: http://www.ngara.org

The Tea Board of Kenya, Naivasha Road – Off Ngong Road, P.O. Box 20064 City Square 00200 Nairobi, Kenya. TEL: +254 20 3874446 / 2536886 / 2536869 / FAX: +254 20 3862120 / 3876337. E-MAIL: info@teaboard.or.ke / WEB: http://www.teaboard.or.ke

MAURITIUS
Association for African Medicinal Plants Standards (AAMPS), c/o Executive Services Ltd. 2nd Les Jamalacs Building, Vieux Conseil Street, Port Louis, Republic of Mauritius. TEL: (230) 454 1041 / FAX: (230) 465 6928. E-MAIL: secretary@aamps.org or Denzil Phillips, CDE Associate Expert Herbs and Pharmaceuticals. E-MAIL: denzil@denzil.com
WEB: http://www.aamps.org

MOROCCO
Assila Medicinal and Aromatic Plant — AL AMAL Association, Mlle. EL BOUAANANI Malika, CELL: 072 69 84 26

Association féminine des herbes médicinales et aromatiques de Beni yider, Commune rurale beni yider, Ben Kerrich, Tétouan, Morocco. TEL: 061.55.44.92

Association Marocaine des Plantes Aromatiques et Médicinales (AMAPAM), Mr. Mohamed Marzouk, CELL: (+212) 63 48 45 40, Mr. Drissi Hassan, CELL: (+212) 67637176, E-MAIL: fidanature@menara.ma

Association Marocaine pour le Développement des Plantes Aromatiques et Médicinales (ADEPAM), Institut Agronomique et Vétérinaire Hassan II, BP 6202 - Rabat Instituts, Rabat, Morocco. Aboulkassim El Hassan or Zrira Saadia, TEL: (+212) 537 68 66 12
E-MAIL: s_zrira@iav.ac.ma or saadia_zrira@gmail.com or aboulkassim.hassan@gmail.com

Société Marocaine des Plantes Aromatiques et Médicinales (SOMAPAM): President Pr. Ismaili Alaoui My Mustapha and Secretary Pr. EL Rhaffari Loussaine, IAV Hassan II, BP 6202 Rabat Instituts TEL/FAX: 212 37 77 23 01
E-MAIL: somapam@yahoo.com.fr or m.ismaili@aiv.ac.ma or erhaffari@yahoo.com.fr
WEB: http://site.voila.fr/somapam

NAMIBIA
Devil’s Claw Working Group, PO Box 23778, Windhoek, Namibia. Chairperson: Magdalena Ya Kasita, TEL: +061–220117 / FAX: +061–232293, E-MAIL: criaawhk@iafrica.com.na
WEB: http://www.criaasadc.org/devilsclaw.htm

Hoodia Growers Association of Namibia (HOGRAN). Windhoek, Namibia, Chairman Jörn Miller
E-MAIL: jdsmiller@iway.na

NIGERIA
Herb Sellers Association of Nigeria, Mrs. Quincy Ayodele

REUNION
Association pour les Plantes Aromatiques et Medicinales de la Réunion (APLAMEDOM), 2, avenue Maxime Rivière – Parc Technor, 97 490 STE CLOTILDE, Ile de la Réunion.
TEL: (00) 262 262 93 88 18/ FAX: (00) 262 262 93 88 01
E-MAIL: contact@aplamedom.com
WEB: http://www.aplamedom.com

SOUTH AFRICA
Cape Ethnobotanical Growers Association, P.O. Box 15134 Vlaeberg 8018 Cape Town. TEL: +27-21-7913953 / FAX: +27-21-7914398, E-MAIL: mirosaj@iafrica.com
robby@zizamele-natural-health.com

Southern African Hoodia Growers Association (SAHGA), Chairman - Robby Gassof Zizamele Herbs, P. O. Box 85, Onrus River 7201. Council members – Volker Miros & Adolf Joubert.
TEL: +27 (0) 28 284 9244 / FAX: 086 545 3975
E-MAIL: robb@zizamele.com, Volker@miros.co.za, adolf@afrinatural.com.

South African Rooibos Council, P.O. Box 55356, Sunset Beach, Cape Town, South Africa 7441.
TEL: +27 (0)21 552 8845 / FAX: +27 (0)21 552 8845
WEB: http://www.sarooibos.co.za/

TOGO
Organisme de Promotion des Plantes Aromatiques et Médicinales du Togo (OPPAM TOGO),
Vitalis Yao Sodatonou, Building Luxolin – BP 107 14 PK Road Anecho, ZI Baguida, Baguida, Togo.
TEL: (00 228) 904 10 45 / 997 21 75 / 320 28 10 / FAX: (00 228) 221 57 06
E-MAIL: vita.sodatonou@oppamtogo.com

TUNISIA
Association Tunisienne des Plantes Médicinales, Hammam Sousse, FAX: 71.783.928

UGANDA
Uganda Commercial Aloe Vera Farmers' Association, Mr. Ali Ssesanga, Plot 34 Rashid Khamis
Road, P.O. Box 6179 Kampala, Uganda. TEL: +256 772 696702 / FAX: +256 41 257343, E-MAIL:
ssesangaali@yahoo.com
WEB: http://www.ucavfa.cfsites.org

ZIMBABWE
Phyto Trade Africa – The Southern African Natural Products Trade Association (SANPTA), PO
Box BE 385, Belvedere, Harare, Zimbabwe. TEL: +263 4 740 730/806/ FAX: +263-4-740 476
E-MAIL: info@phytotiveafrica.com
WEB: http://www.sanprota.com

ASIA

BANGLADESH
Bangladesh Herbal Products Manufacturers Association (BHPMA), Secretary General Mr.
Hasibur Rahman. ACME Laboratories Ltd, 1/4 Kallayanpur, Mirpur Road, Dhaka-1207 Bangladesh.
TEL: 880 2 900 41 94 – 96 / FAX: +880 2 901 68 72, E-MAIL: hrahman.ed@acmeglobal.com

Business Promotion Council for Herbal Sector of the Bangladesh Export Promotion Bureau,
Dhaka, 1215, Bangladesh. TEL: 880-2-9144821-3 / FAX: 880-2-9119531

CHINA
China Chamber of Commerce of Medicines & Health Products Importers & Exporters
(CCCMHPIE), 8/F., No. 12, Panjiayuan nanli, Chaoyang District, Beijing China 100021.
TEL: 86 10 67732799, 87784447 / FAX: 86 10 87784484, E-MAIL: service@cccmhpie.org.cn
WEB: http://www.mhpie.com

International Centre of Research and Training on Seabuckthorn (ICRTS)

Modernized Chinese Medicine International Association, Hong Kong G.P.O. Box 5301. TEL:
2492-2713 / FAX: 2906-9330, E-MAIL: mcmia@mcmia.org
WEB: http://www.mcmia.org

JAPAN
Japan Oilseed Processors’ Association (JOPA), http://www.oil.or.jp

INDIA
All India Aromatic Plants Growers Association (AIAPGA), President Thakur Randhir Singh, 298,
EP Flat, Wazarat Road, Jammu Tawi-180001, Jammu & Kashmir

Asian Medicinal Plants & Health Care Trust (AMPHCT), Sonamukhi Nagar, Sangaria Fanta,
Salawas Road, Jodhpur – 342 005 Rajasthan, India. TEL: 0091.291.2748488 / FAX: 0091.291.5120509,
E-MAIL: amptrust@yahoo.com
Central Herbal Agro Marketing Federation (CHAMF), Dr. Rajaram Tripathy, 39-A, Rohit Villa, Pachpedi Chowk, Ring Road No. 1, Raipur (C.G.) – 492001, TEL: +91 771-4001197
E-MAIL: chamfmall@gmail.com, mdhorganic@gmail.com
WEB: http://www.chamf.org

Central Organisation for Oil Industry and Trade (COOIT), Shri Mansukhbhai Patel, President 4-M, DCM Building 16, Barakhamba Road, New Delhi – 110 001. TEL: +91 11 371 2058 / FAX: +91 11 3

Essential Oil Association of India, Mr. S. C. Jain, Executive Secretary, 301, 4832/24 Ansari Road, Darya Ganj, New Delhi, 110002. TEL: +91 11-325-0322; / FAX: +91 11-325-0443;
E-MAIL: eoai@bol.net.in
WEB: http://www.eoai.in

Federation of Indian Herbal Industry (FIHI), Prof. Vimala Devi, M/S Auro Pharma, Flat No. 3-12, Captaine Marius Xavier Street, Pondicherry – 605001, India. TEL: 091-0413-2346950, 3090491
FAX: 91-0413-346950, E-MAIL: fihi@fihionline.com / bkurup@fihionline.com
WEB: http://www.fihionline.com/aboutus.htm

TEL: 022 220 90284 / 220 76075 / FAX: 022 2205875
E-MAIL: fafai@mtnl.net.in / WEB: http://www.fafai.org

Health Foods and Dietary Supplements Association (HADSA), 1011 Dalamal House, Nariman Point, Mumbai – 400 021, India. Ms. Dipali Mahadik TEL: 91 022 2287 25 57/58/59 / FAX: 91 022 2287 25 60. E-MAIL: hadsas@vsnl.net, pro@hadsa.com / WEB: http://www.hadsa.com

Herbal Farmers Association, Guntakal, Hanumesh Nagar, 20/1483, Guntakal, Andhra Pradesh, India, 515 801. TEL: +91 8552 227030

Herbs & Herbal Export Promotion Association of India (HEPAI), 207, Silver Arch plaza 20/1 New Palasia, Indore - 452001 - (MP) INDIA. TEL: 91-731-3018833-34-35 / FAX: 91-731-2435003; MOB: +91-94250-59407, +91-9302121830, E-MAIL: contact@hepai.org
WEB: http://www.hepai.org

India Pepper and Spice Trade Association, M.A. Thomas (Secretary), VI/150 Jew Town, Kohi 682 002. TEL: 91 484 227582 / 91 484 224263, 225173 / FAX: 91 484 227434.
E-MAIL: ipsta@vsnl.com
WEB: http://www.ipsta.com

Lauhal & Spiti Seabuckthorn Society, Lauhal & Spiti District, Himachal Pradesh, India

Maharashtra Rajya Sugandhi Aushadhi Vanaspati Utpadak Prakiya Sangh, Dr. S.G.Patil, President, 120/9, Pashan Flats, Behind Lenyadri Society, Pashan Soos Road, Pune 411 021. TEL: 020-25882263

E-MAIL: abr_bincy@hotmail.com

Medicinal, Aromatic and Dye Plants Stakeholders' Consortium (MAPSCON), National Secretariat MAPSCON, C-193, IInd Floor, Opposite ‘M’ Block Market, Greater Kailash - I, New Delhi 110 048, India. TEL: +91.11.4165.7166 / FAX: +91.11.4165.7167, E-MAIL: info@mapscon.com

National Medicinal Plants Board (NMPB), Department of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha & Homoeopathy), Ministry of Health & Family Welfare, Government of India, Chandralok Building, 36, Janpath, New Delhi – 110001, TEL: 011-23319360 / FAX: 011 23319356, E-MAIL: info-nmpb@nic.in, ceo-nmpb@nic.in
E-MAIL: info@pharmexcil.com
WEB: http://www.pharmexcil.com

Samagra Adivasi Medicinal Plants Development Association (SAMPDA) 39 A Rohit Villa, Ring Road No.1, Raipur, C. G., India TEL/FAX: 0771 4001197
E-MAIL: sampdango@gmail.com
WEB: http://www.sampda.org

Shellac and Forest Products Export Promotion Council (SHEFEXIL) International Trade Facilitation Centre, 1/1 Wood Street, 2nd Floor, Kolkata - 700 016, India.
TEL: 91 33 2283 4417/ FAX: 91 33 2283 4699
E-MAIL: sepc@vsnl.net
WEB: http://www.shellacepc.com

Spice & Food Stuff Exporters Association of India (SFEAI), 530/531 Commodity Exchange Building, 5th Floor, Opp: Dana Bunder Sector 19- Vashi, Navi Mumbai 400705.
TEL: 91 22 278 316 75 / FAX: 91 22 278 317 11
E-MAIL: sfedia@mtnl.net.in or kkcdipak@bom3.vsnl.net.in
WEB: http://www.sfeaindia.net

Spices Board of India (SBI), Ministry of Commerce & Industry, Government of India, Sugandha Bhavan, N.H. Bypass, Palarivattom PO Cochin – 682 025.
TEL: 91-484-233610-616 / FAX: 91 484 2334429, 2331429
E-MAIL: spicesboard@vsnl.com
WEB: http://www.indianspices.com

Tuticorin Senna Exporters Association (TSEA), P.S.S. Ramachandran, President. Tuticorin, Tamil Nadu, India.

INDONESIA

Asosiasi Ekspor Cassia Vera Indonesia (AECI), Jl. M.H. Thamrin 21, Padang. TEL: 0751 33261.


Asosiasi Kakao Indonesia (ASKINDO) (The Indonesian Cocoa Association), Wisma Nugraha Lt. 5Jl. Raden Saleh VI No.6 Jakarta Pusat 10430. TEL: 021 3919554 / 021 3919556 / FAX: 201 3919556.

Asosiasi Pala Indonesia (API) (The Indonesian Nutmeg Association), Jl. Majapahit B 1A ¾ No. 18, Jakarta Pusat, Indonesia.

Asosiasi Perdagangan Minyak Atsiri Indonesia (The Indonesian Essential Oil Trade Association), c/o PT Djasula Wangi Jl. Garuda 99 Kemayoran Jakarta Pusat 10610, Indonesia.
TEL: 021 4209808 / FAX: 021 4244173.
JORDAN
Association of Agricultural Research in the Near East & North Africa (AARINENA), AARINENA Secretariat, C/O ICARDA West Asia Regional Program (WARP), P. O. Box 950764 Amman 11195 Jordan. TEL: +962 6 5525750 / FAX: +962 6 5525930.
E-MAIL: i.hamdan@cgiar.org
WEB: http://www.aarinena.org

NEPAL
Herbs & NTFP Coordination Committee of the Asia Network for Sustainable Agriculture and Bioresources (ANSAB), Mr. Bhishma P. Subedi, P.O. Box 11035, Kathmandu, Nepal.
TEL: (977-01)-4497547/4478412 / FAX: (977-01)-4476586
E-MAIL: ansab@ansab.org
WEB: http://www.ansab.org/nnn.php

PHILIPPINES
Chamber of Herbal Industries of the Philippines (CHIP), Mezzanine Flr., Strata 300 Bldg. P. Guevarra Street, San Juan 1500 Philippines.
TEL: (63 2) 703 0799, 584 6241, 725 6470 / FAX: (63 2) 584 6241, 725 6470
E-MAIL: sec@chipi.org.ph
WEB: http://www.chipi.org.ph

SINGAPORE
Singapore Chinese Medicines and Health Products Merchant Association, 346A King George’s Avenue, Singapore 208577. TEL: (65) 6293 8019 / FAX: (65) 6293 5803.
E-MAIL: meheproassn@yahoo.com.sg
WEB: http://www.tcm.org.sg

SRI LANKA
The Spices & Allied Products Producers’ and Traders’ Association, c/o Ceylon Chamber of Commerce, No. 50, Nawam Mawatha Colombo 02, Sri Lanka.
TEL: 94 11 2421745-6 / 2380157-8 / FAX: 94 11 2449352 / 2437477
E-MAIL: sappta@chamber.lk
WEB: http://www.sappta.com

VIET NAM
Association of Essential Oils, Perfumes and Cosmetics Viet Nam, Prof. Dr. Nguyen Thuong Dong, 32/C1 - Tap the Quan Doi, Mai Dich, Cau Giay, Hanoi. TEL: +84 4 7 648 426
E-MAIL: htqt-imm@hn.vnn.vn

EUROPE
ALBANIA
Albanian Spice and Herbal Trade Association (ASHTA), Contact details not available

AUSTRIA
European Herb Growers Association (EUROPAM), Veterinaerplatz 1, A-1210 Wien, Austria.
TEL: 0043 1 250 77 3104 / FAX: 0043 1 250 77 3190
E-MAIL: Johannes.Novak@europam.net
WEB: http://www.europam.net
Österreichischen Verbandes für Heil- und Gewürzpflanzen (AGV) (Austrian Association for Medicinal and Herbal Horticulture), AGV Chairwoman Ms. Agnes Schierhuber
E-MAIL: agnes.schierhuber@europarl.europa.eu

BELGIUM
World Association of Seaweed Processors, Marinalg International, Avenue Brugmann 12A – Box 1060, Brussels. TEL: +32 (0) 2 538 3825 / FAX: +32 (0) 2 538 2826
E-MAIL: marinalg@marinalg.org
WEB: http://www.marinalg.org

BOSNIA AND HERZEGOVINA
Association of Medicinal Plants and Wild Forest Products of Bosnia and Herzegovina, Foreign Trade Chamber of Bosnia and Herzegovina, Department of Branch Associations, Branišlava Đurđeva 10, BIH-71000 Sarajevo. TEL: +387.33.202.968 / FAX: +387.33.214.292, E-MAIL: faveda@bih.net.ba

MAP Association of “ZLATNICA”, Bihać, Pokoj bb, 77101 Bihać / TEL/FAX: +387.37.300.887
E-MAIL: alma012@bih.net.ba

BULGARIA
Bulgarian Association of Herb and Mushroom Gatherers, Mr. JIVKO DRAGANOV, President, 27 Dondukov Blvd., 1000 Sofia. TEL: (+359 2) 986 29 90 / TEL/FAX: (+359 2) 986 28 16

Bulgarian Exchange for Spices, 1592 Sofia, 4-8 Prof. Cvetan Lazarov Bul, Borsa -Bulgarplod Slatinea - Cara” Sklad 105. TEL/FAX: +359 2 9744986
E-MAIL: office@bg-spices.com
WEB: http://www.bg-spices.com

Bulgarian National Association Essential Oils, Perfumery & Cosmetics (BNAEOPC), 93 Maritza Blvd., Plovdiv 4003 / TEL/FAX: +359 32 96 78 35; +359 32 96 78 34
E-MAIL: office@bnaeopc.com
WEB: http://www.bnaeopc.com

CZECH REPUBLIC
PELERO CZ o.s. (Association of the Producers and Processors of Medicinals and Aromatic Plant and Spices), Ing. Blanka Kocourková, CSc., Mendel University of Agriculture and Forestry in Brno, Department of Crop Science, Plant Breeding and Plant Medicine, office N3099 TEL: +420 545 133131 / FAX: +420 545 133302
E-MAIL: blanka@mendelu.cz or info@pelero.cz
WEB: http://www.pelero.cz/

FINLAND
Arctic Flavours Association (AFA), Kauppakuatu 20, 89600 SUOMUSSALMI, Finland. TEL: +358 861 555 590, +358 861 555 591 / FAX: +358 861 555 592
E-MAIL: info@arctic-flavours.fi
WEB: http://www.arctic-flavours.fi

FRANCE
Association of Delegates of the Professional Organizations of Producers and Collectors of Medicinal and Aromatic Plants of the EEC, 6 bd Marechal-Joffre, F-91490 Milly-la-Foret

Association Internationale pour le Développement des Gommes Naturelles (AIDGUM), 129, Chemin de Croisser BP 4151 76723 Rouen Cedex, France. TEL: +33 232 831 818 / FAX: +33 232 831 919. E-MAIL: fthevenet@cniworld.com or jphn@irlupien.net

Comité des Plantes à Parfum, Aromatiques et Médicinales (CPPARM), Les Quintrands Route de Voix, 04100 Manosque. TEL: +33 (0)4 92 72 47 62 / FAX: +33 (0)4 92 72 72 09
E-MAIL: contact@cepparm.com
WEB: http://www.cepparm.com
Comité Interprofessionnel des Huiles Essentielles Françaises (CIHEF), ZI St Joseph - Traverse des Métiers 04100 Manosque. TEL: 04.92.87.38.09, FAX: 04.92.72.72.09
E-MAIL: Michel-krausz@wanadoo.fr

European Confederation of Distributors, Producers and Importers of Medicinal Plants, 23 Rue du Peintre Lebrun, F-78000 Versailles

Office National Interprofessionnel de Plantes a Parfum Aromatiques et Medicinales (ONIPPAM), BP 8 - 04130 VOLX. TEL: 04 9279 3446 / FAX: 04 9279 3322
E-MAIL: onippam@onippam.fr
WEB: http://www.onippam.fr

GERMANY
The Association For the International Promotion of Gums (AIPG), Secretariat at WGA Hamburg e.V. (HARZVEREIN), Gotenstraße 21 D-20097 Hamburg City Süd. TEL: +49 (0)40 23 60 16 13/15 / FAX: +49 (0) 40 23 60 16 10
E-MAIL: aipg@wga-hh.de
WEB: http://www.treegums.org

Deutscher Fachausschuss für Arznei-, Gewürz- und Aromapflanzen (DFA), Prof. Dr. U. Bomme, Bad Hersfeld

Erzeugerring für Heil- & Gewürzpflanzen in Bayern e.V., Tal 35, 80331 München, Herr Hans Möser. TEL: +49 089 290 06316 / FAX: +49 089 290 06320
E-MAIL: hans.moeser@lkp.bayern.de
WEB: http://www.kraeutermanbau.de

European Federation of Essential Oils (EFEO), EFEO Secretariat, Sonninstrasse 28, 20097 Hamburg, Germany. TEL: +49 40 23 60 16 15 / FAX: +49 40 23 60 16 10
E-MAIL: efeo@wga-hh.de
WEB: http://www.efeo-org.org

European Herbal Infusions Association (EHIA), Sonninstr. 28, 20097 Hamburg, Germany. TEL: +49 40 236016 21, FAX: +49 40 236016 10
E-MAIL: info@ehia-online.org
WEB: http://www.ehia-online.org

European Spice Association (ESA), Reuterstrasse 151, 53113 Bonn, TEL: +49 228 216 162 / FAX: +49 228 229 460
E-MAIL: esa@verbaendebuero.de
WEB: http://www.esa-spices.org/

Fachverband der Gewürzindustrie e. V. (Association of the German Spice Industry), Reuterstraße 151, 53113 Bonn, Germany. TEL: (02 28) 21 61 62 / FAX: (02 28) 22 94 60.
E-MAIL: info@gewuerzindustrie.de
WEB: http://www.gewuerzindustrie.de

Gesellschaft zur Förderung von Sanddorn und Wildobst, Sanddorn e.V. (German Society for Seabuckthorn and Wild Fruits), Infostelle, An der Mühle 1, 15345 Altlandsberg, Germany. TEL: +49 33438 14724, FAX: 49 33438 14720
E-MAIL: sanddorn@sanddorn.net
WEB: http://www.sanddorn.net

Hessian Association for Medicinal and Spice/Culinary Plants, agrimed Hessen wV, Oderstr: 38, D-65468 Trebur Germany. TEL: 06147-93225 / FAX: 06147-57091
E-MAIL: agrimed.hessen@t-online.de

International Council for Medicinal and Aromatic Plants (ICMAP), Dr. Renate Seitz Emmeringerstrasse 11, D-82275 Emmering, Germany. Tel/Fax: +49 8141 613749
E-MAIL: info@icmap.org
WEB: http://www.icmap.org/

International Kava Executive Council (IKEC), Dr. Joerg Gruenwald, Executive Director, c/o Phytopharm Consulting, Waldseeweg 6, 13467 Berlin, Germany. Tel: +49 30 4000 8111 / Fax: +49 30 4000 8500
WEB: http://www.ikec.org

Verein für Arznei- und Gewürzpflanzen, SALUPLANTA e.V., Prof.-Oberdorf-Siedlung 16 D-06406 Bernburg. FAX: +49 03471 640 332
E-MAIL: saluplanta@t-online.de
WEB: http://www.saluplanta.de/

E-MAIL: info@wkf.de
WEB: http://www.wkf.de

HUNGARY
Medicinal Plant Association and Product Council, Akos Mathe, Secretary, H-1118 Budapest, Menesi ut 44. TEL: 361-185-1155 / FAX: 361-237-1388

ITALY
E-MAIL: fprimavera.andrea@infinito.it
WEB: http://www.pianteofficinali.org/main/fippo.htm

Italian branch organisation of herbal traders (FEI), F.E.I. Federazione Erboristi Italiani 00153 Roma - P.zza G.G. Belli, 2. TEL: 0655280704 – 0658663435-305 / FAX: 065812750 - 0655265296 E-MAIL: feiroma@tin.it, fei@confcommercio.it
WEB: http://www.feierboristi.org/associazione.htm

Italian association of farmers, harvesters, transformers, importers, exporters, wholesalers and agents of medicinal and aromatic plants and spices (Assoerbe), Unione del Commercio, del Turismo e dei Servizi della Provincia di Mila, Corso Venezia, 47/49 – 2021 Milano (MM1 – Palestro). TEL: +39 02 7750575 / FAX: +39 02 76005543
E-MAIL: info@assoerbe.it
WEB: http://www.assoerbe.it/eng

THE NETHERLANDS
Nederlandse Vereniging voor de Specerijhandel (NVS) (Dutch Spice Trade Association), c/o P. Visser & Zoon B.V., Einsteinstraat 30G, 1446 VG, Purmerend, The Netherlands. TEL: 0031 299 630 650 / FAX: 0031 299 630 655
E-MAIL: info@visserp.nl
WEB: http://www.pvisser.com

POLAND
Polski Komitet Zielarski (Polish Herbal Committee), BIURO ZARZĄDU GŁÓWNEGO PKZ 61-707 Poznań, ul. Libelta 27. TEL: 61/665 95 40 Ext. 55
E-MAIL: pkz@iwnirz.pl or malgorzata.gorska-paukszta@iwnirz.pl
WEB: http://www.pkz.pl

ROMANIA
Asociatia Producatorilor Prelucratorilor si Utilizatorilor de Plante Medicinale si Aromatice din Romania, (ROPAM), (Romanian Medicinal and Aromatic Plants Growers, Manufacturers and Users Association), Dr. Dumitru Lazurca, G. Moroianu 176 Sacele, Brasov, cod 505600. TEL/FAX: +40(268)273766. E-MAIL: dlazurca@deltanet.ro , contact@ropam.org.ro
Planta Romanica, Dr. Ovidiu Bojor, Str. George Enescu, nr.27-29, sector 1, Bucaresti. TEL: +40 (21) 3154783 / FAX: +40 (21) 3100025
E-MAIL: ovidiu.bojor@home.ro

SERBIA AND MONTENEGRO
Association for Medicinal and Aromatic Plants of Southeast European Countries (AMAPSEEC), Tadeuša Košćuška 1, 11000 Belgrade Serbia. TEL: +381 3031 653
E-MAIL: office@amapseeec.org
WEB: http://www.amapseeec.org

SLOVENIA
International Hop Growers Convention (IHGC), Malgajeva 18, SI-3000 Celije Slovenia. TEL: +386 3 712 1600 / FAX: +386 3 712 16 20
E-MAIL: martin.pavlovic@guest.arnes.si
WEB: http://www.hmelj-giz.si/ihgc

SPAIN
Asociación Catalana de Productores de Plantas Aromáticas y Medicinales (ACPPAM), Cataluña
E-MAIL: acppam@ctfc.udl.es
WEB: http://www.acppam.cat/webcat

Asociación Española de Fabricantes de Preparados Alimenticios Especiales, Dietéticos y Plantas Medicinales (AFEPAI), C/ Aragón, 208, 08011, Barcelona, Spain. TEL: +34 934548725
FAX: +34 934513155
E-MAIL: afepadi@afepadi.org
WEB: http://www.afepadi.org

European Stevia Association (EUSTAS), Secretary’s office: Mónica Lorenzo Tejedor Calle Maladeta, 20, 22300 BARBASTRO (Huesca). Tel: +34 974 311478 / Fax: +34 974 311359
E-MAIL: info@eustas.org
WEB: http://www.eustas.org

SWEDEN
Svenska Kryddföreningen (Swedish Spice Association), Bo Nilsson, Secretary-General. TEL: +46 707 89 75 60. E-MAIL: bolnilsson@gmail.com
WEB: http://www.svenskakryddforeningen.se

UNITED KINGDOM
Aromatherapy Trade Council (ATC), PO BOX 219, Market Rasen, LN8 0BR. TEL: 01673 844 672
E-MAIL: info@a-t-c.org.uk
WEB: http://www.a-t-c.org.uk

British Herbal Medicine Association (BHMA), P.O. Box 583, Exeter EX1 9GX. TEL: +44 (0) 845 680 1134 / FAX: +44 (0) 845 680 1136
E-MAIL: secretary@bhma.info
WEB: http://www.bhma.info

International Cocoa Organization (ICCO), Commonwealth House 1-19 New Oxford Street, London WC1A 1NU. TEL: +44 (0)20 7400 5050 / FAX: +44(0)20 7421 5500
E-MAIL: info@icco.org
WEB: http://www.icco.org

International Federation of Essential Oils and Aroma Trades (IFEAT), 9 Lincolns Inn Fields, London WC2A 3BP. TEL: +44 20 7729 5904 / FAX: +44 20 7814 8383
E-MAIL: secretariat@ifeat.org
WEB: http://www.ifeat.org

The Federation of Oils, Seeds and Fats Association Ltd (FOSFA), 20 St Dunstan’s Hill, London EC3R 8NQ, United Kingdom. TEL: +44 (0) 20 7283 5511 / FAX: +44 (0) 20 7623 1310.
E-MAIL: membership@fosfa.org

**Seed Crushers’ and Oil Processors’ Association (SCOPA)**, Secretary General Angela Bowden. P.O. Box 277A Surbiton KT7 0LZ United Kingdom. TEL: +44 (0) 20 8398 5955 / FAX: +44 (0) 20 8398 6010 E-MAIL: [angela.bowden@scopa.org.uk](mailto:angela.bowden@scopa.org.uk) WEB: [http://www.scopa.org.uk](http://www.scopa.org.uk)

**The Seasoning and Spice Association (SSA)**, 6 Catherine Street, London WC2B 5JJ Tel: 020 7836 2460 / Fax: 020 7836 0580 E-MAIL: [ssa@fdf.org.uk](mailto:ssa@fdf.org.uk) WEB: [http://www.seasoningandspice.org.uk](http://www.seasoningandspice.org.uk)

### NORTH AMERICA

#### CANADA

**Alberta Natural Health Agricultural Network (ANHAN)**, PO Box 67314, Hawkstone RPO, Edmonton, Alberta, T6M 0J4 Canada. TEL: 780.475.4462 / FAX: 780.444.0355 (10am to 10pm only), E-MAIL: [info@anhan.org](mailto:info@anhan.org) WEB: [http://newcropsalberta.org/](http://newcropsalberta.org/)

**Alberta Rhodiola Rosea Growers Organization (ARRGO)**, PO Box 671, Thorsby, Alberta, Canada T0C 2P0. TEL: (780) 789-3301 or 1 887 789 3301 (toll free) E-MAIL: judy.zastre@anhan.org WEB: [http://www.arrgo.ca](http://www.arrgo.ca)

**British Columbia Herb Growers Association (BCHGA)**, 998 Skeena Drive, Kelowna, B.C. V1V 2K7. TEL/FAX: 604.504.5990 E-MAIL: [info@bcherbgrowers.com](mailto:info@bcherbgrowers.com) WEB: [http://www.bcherbgrowers.com](http://www.bcherbgrowers.com)

**British Columbia Sea Buckthorn Growers Association**, 10449 Warren Road, Vernon BC V1B 3C5. TEL: 250 542 1816 / FAX: 250 260 1882

**Canadian Herb, Spice and Natural Health Products Coalition**, c/o Saskatchewan Herb and Spice Association (SHSA), Box 19 Phippen, Saskatchewan. TEL: 306.694.4622 / FAX: 306.694.2182 E-MAIL: [shsa@imagewireless.ca](mailto:shsa@imagewireless.ca) WEB: [http://www.saskherbspice.org/CHSNC](http://www.saskherbspice.org/CHSNC)

**Canadian Spice Association (CSA)**, 7235 Bellshire Gate, PO BOX 88059 Mississauga, ON L5N 8A0. E-MAIL: [info@canadianspiceassociation.com](mailto:info@canadianspiceassociation.com) WEB: [http://www.canadianspiceassociation.com/](http://www.canadianspiceassociation.com/)

**Certified Organic Associations of BC**, 202 32nd Street, Vernon BC V1T 9G1. TEL: 250 260 4429 / FAX: 250 260 4436. E-MAIL: [office@certifiedorganic.bc.ca](mailto:office@certifiedorganic.bc.ca) WEB: [http://www.certifiedorganic.bc.ca](http://www.certifiedorganic.bc.ca)

**Filière des plantes médicinales biologiques du Québec**, C.P. 43, Magog (Québec) J1X 3W7 Canada. TEL: 819.847.2676 / FAX: 819.847.1862. E-MAIL: [fpmq@plantesmedicinales.qc.ca](mailto:fpmq@plantesmedicinales.qc.ca) WEB: [http://www.plantesmedicinales.qc.ca/index.html](http://www.plantesmedicinales.qc.ca/index.html)

**Medicinal & Aromatic Plants Association of Manitoba**, PO Box 20024, Selkirk, Manitoba R1A 1S0 Canada. TEL: (204) 766-2669 / FAX: (204) 482-8667

**National Herb and Spice Coalition (NHSC)**, c/o SHSA, Box 18 Phippen, Saskatchewan. S0k 3E0 Canada. TEL: 306-694-4622 / FAX: 306-694-2182, E-MAIL: [shsa@imagewireless.ca](mailto:shsa@imagewireless.ca)

**Northern Alberta Herb Growers**, 8716 - 112 Street, Fort Sask., AB T8L 2S8 Canada. TEL: (780) 997-4372) / FAX: (780) 998-0078
Ontario Ginseng Growers Association (OGGA), 1283 Blueline Road Box 587, Simcoe, Ontario N3Y 4N5 Canada. TEL: 519 426 7046 / FAX: 519 426 9087.
E-MAIL: info@ginsenggrowers.com
WEB: http://www.ginsengontario.com

Quebec Seabuckthorn Growers' Association (APAQ), 30, rue Sainte-Marguerite, Beaupré (Qc) G9A 1E0, CANADA, TEL: 418 827 1659 / FAX: 418 827 8699
E-MAIL: info@argousier.qc.ca

Saskatchewan Herb and Spice Association (SHSA), PO Box 7568, Station Main, Saskatoon, Sk, S7K 4L4 Canada. TEL: 306 694 4622 / FAX: 206 694 2182.
E-MAIL: shsa@sasktel.net
WEB: http://www.saskherbspice.org

Western Canadian Organic Herb and Spice Association, PO Box 16, Opal, Alberta T0A 2R0 Canada. TEL: (780) 909-1634 / FAX: (780) 942-3992

TRINIDAD
Caribbean Herbal Business Association (CHBA), c/o CARDI PO BOX 212 UWI Campus, St. Augustine, Trinidad & Tobago, West Indies. TEL: (868) 645-1205 - 7 / FAX: (868) 645-1208
E-MAIL: chba@ilacacarc.org
WEB: http://www.caribbeanherbs.org

UNITED STATES OF AMERICA
American Botanical Council (ABC), 6200 Manor Road, Austin, Texas 78723. TEL: 512 926 4900 / FAX: 512 926 2345.
E-MAIL: abc@herbalgram.org
WEB: http://www.herbalgram.org

American Council for Medicinally Active Plants, Inc. (ACMAP), Dr. Gary W. Stutte, Vice President and Executive Director, P.O. Box 1761, Titusville, FL 32781. TEL: 321 861 3494 / FAX: 321 861 2925
E-MAIL: info@acmap.org
WEB: http://www.acmap.org/

American Herbal Products Association (AHPA), 8630 Fenton Street, Suite #918, Silver Spring, Maryland 20910. TEL: 301.588.1171/ FAX: 301.588.1174.
E-MAIL: ahpaa@ahpa.org
WEB: http://www.ahpa.org

American Spice Trade Association (ASTA), 2025 M Street, NW, Suite 800, Washington, DC 20036.
E-MAIL: info@astaspice.org
WEB: http://www.astaspice.org

Awa (Kava) Development Council, PO Box 26344, Honolulu, HI 96825. TEL: 808.256.5605
FAX: 808 395 3772.
E-MAIL: hcbitt@hawaii.edu
WEB: http://awadevelopment.org

Carolina Agri-Solutions Growers Association (CASGA), Conway, South Carolina, President Greg Hyman. TEL: 843 397 1502. E-MAIL: ghyman@sccoast.net

Far West Spearmint Oil Administrative Committee, 100 N. Fruitland, Suit B, Kenneick WA 99336.
E-MAIL: agmqt@agmqt.com
WEB: http://www.farwestspearmint.org
Great Plains Herb Growers Association (GPHGA), 908 W. 20th Terrace, PO Box 4422, Lawrence, Kansas 66046. TEL: 785 841 9241 / FAX: 785 841 4975.
E-MAIL: herbgrowers@sunflower.com
WEB: http://www.kansasruralcenter.org/greatplains.htm

Herb Growing & Marketing Network, Maureen Rogers (Director), P.O. Box 245, Silver Spring, PA 17575-0245. TEL: 7171 393 3295 / FAX: 7171 393 9261.
E-MAIL: herbworld@aol.com
WEB: http://www.herbnet.com

Hop Growers of America (HGA), P.O. Box 1207, 301 W. Prospect Place, Moxee, WA 98936. TEL: 509 453 4749 / FAX: 509 457 8581.
E-MAIL: info@usahops.org
WEB: http://www.herbnet.com

Idaho Mint Growers Association (IMGA), 55 SW 5th Avenue, Suite 100, Meridian, Idaho 83642. Roger Batt, Executive Director. TEL: 208 888 0988.
E-MAIL: rbatt@spro.net
WEB: http://www.idahomint.org/growers.html

International Aloe Science Council (IASC), 8630 Fenton Street, Suite 918, Silver Spring, MD 20910. TEL: 301 588 2420 / FAX: 301 588 1174
WEB: http://www.iasc.org

International Herb Association, P.O. Box 5667, Jacksonville FL, USA 32247-5667
WEB: http://www.iherb.org

New Mexico Herb Growers Association (NMHGA), 2118 Central Ave. SE #86, Albuquerque, New Mexico 87106. Charles Martin. TEL: 505 852 4241.
E-MAIL: cmartin@nmsu.edu
WEB: http://nmhga.com/

North Carolina Herb Association (NCHA), 455 Research Drive, Fletcher, North Carolina 28732. TEL: 828 684 3562.
E-MAIL: jeanine_davis@ncsu.edu
WEB: http://www.ncherbassociation.org/

Northwest Ginseng Growers Association (NGGA), 4820 NE 306th Circle, La Center, Washington 98629. TEL: 360 263 7757 / CELL: 503 819 8934

Roots of Appalachia Growers Association (RAGA), PO Box 157, Trimble, Ohio 45782. TEL: 740 767 4938.
E-MAIL: tanner@ruralaction.org
WEB: http://www.rootsofappalachia.org

Sequim Lavender Growers Association (SLGA), 55 Parrish Road, Sequim, Washington 98382
WEB: http://www.lavendergrowers.org

Sonoma County Herb Association, P.O. Box 2162, Sebastopol, CA 95473. TEL: 707 861 0336. E-MAIL: sonomaherbs@gmail.com
WEB: http://www.sonomaherbs.org

West Virginia Herb Association (WVHA), 1289 Smoke Camp Road, Weston, West Virginia 26452. TEL: 304 269 6416.
E-MAIL: nyeann@ma.rr.com
WEB: http://www.wvherb.org

E-MAIL: wcf@worldcocoa.org
<table>
<thead>
<tr>
<th>Country</th>
<th>Association Name</th>
<th>Address/Contact Details</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCEANA</td>
<td>Australian Ginseng Growers Association (AGGA)</td>
<td>P.O. Box 66, Huonville, TAS 7109. TEL: +61 (0) 419 495 936, E-MAIL: <a href="mailto:info@ginseng.org.au">info@ginseng.org.au</a>, WEB: <a href="http://www.ginseng.org.au">http://www.ginseng.org.au</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Australian Lavender Growers’ Association Inc (TALGA)</td>
<td>The Secretary TALGA Inc, PO Box 1296, Richmond North Victoria, 3121, Australia. TEL: +61 (02) 66742925 / FAX: +61 (02) 66742475, E-MAIL: <a href="mailto:secretary@talga.com.au">secretary@talga.com.au</a>, WEB: <a href="http://www.talga.com">http://www.talga.com</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Australian Tea Tree Industry Association (ATTIA)</td>
<td>PO Box 903, Casino NSW 2470 Australia. TEL: +61 (02) 66742925 / FAX: +61 (02) 66742475, E-MAIL: <a href="mailto:enquiries@teatree.org.au">enquiries@teatree.org.au</a>, WEB: <a href="http://www.teatree.org.au">http://www.teatree.org.au</a></td>
<td></td>
</tr>
<tr>
<td>FIJI</td>
<td>Pacific Islands Noni Association (PINA)</td>
<td>P.O. Box 516, Lautoka, Fiji – Islands. E-MAIL: <a href="mailto:info@ginseng.org.au">info@ginseng.org.au</a>, WEB: <a href="http://www.pina.ws">http://www.pina.ws</a></td>
<td></td>
</tr>
<tr>
<td>SOUTHERN AMERICA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOLIVIA</td>
<td>Sociedad Boliviana de Medicina Tradicional (SOBOMETRA)</td>
<td>Mr. Walter Alvarez, Pasaje González #140, La Paz. TEL: +591 2 331724 / FAX: +591 2 313783</td>
<td></td>
</tr>
<tr>
<td>BRAZIL</td>
<td>Associação Brasileira das Empresas do Setor Fitoterápico, Suplemento Alimentar e de Promoção da Saúde (ABIFISA)</td>
<td>TEL/FAX: (41) 3254 3040 / E-MAIL: <a href="mailto:abifisa@abifisa.org.br">abifisa@abifisa.org.br</a>, WEB: <a href="http://www.abifisa.org.br">http://www.abifisa.org.br</a></td>
<td></td>
</tr>
<tr>
<td>COLUMBIA</td>
<td>Nativa Trade Association for Natural Ingredients</td>
<td>E-MAIL: <a href="mailto:ingredientesnaturales@gmail.com">ingredientesnaturales@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>ECUADOR</td>
<td>Asociación Agroartesanal de Productores de plantas secas medicinales del Ecuador (AAPPSME)</td>
<td>Contact: Ing. Orlando Cadme or Sra. Oliva Chuncho, Ramon Pinto entre Diez de Agosto y Jose Antonio Eguiuren. TEL/FAX: ++593 7 2 583 173, E-MAIL: <a href="mailto:orlandocadme@latinmail.com">orlandocadme@latinmail.com</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asociación de Productores de Plantas Medicinales del Chimborazo Jambi Kiwa</td>
<td>Km 1 Vía Santa Cruz, Parroquia y Aruquies, Riobamba-Ecuador. TEL: ++593.9.902645 / FAX: ++593.2.951026, E-MAIL: <a href="mailto:jambikiwa@ch.pro.ec">jambikiwa@ch.pro.ec</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carabotija Association of Producers of Medicinal Plants</td>
<td>Ms. María Resfa Guatmeal, No. 1 Barrio Carabotija, Olmedo, Cayambe-Ecuador. TEL: ++593.2.2115064/2362240, E-MAIL: <a href="mailto:jenchala@yahoo.com">jenchala@yahoo.com</a></td>
<td></td>
</tr>
<tr>
<td>PERU</td>
<td>Asociación de Agroindustriales de Maca y Productos Andinos del Altiplano de Junín, Perú.</td>
<td>Asociación de Productores de Maca, Javier Pablo Castillo Güere, Presidente, Km. 243 Carretera Central, Shacayán, Junín, Perú. TEL: +51.64.9679002, E-MAIL: <a href="mailto:macajpcg@yahoo.com">macajpcg@yahoo.com</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asociación de Productores de Maca Ecológica de la Provincia de Junín (APROMACA-E-JUNIN),</td>
<td>Luis Oswaldo Castillo Huerta, Presidente. Jr. San Martin Nº 588, Junín, Perú. TEL: +51-64-344060, E-MAIL: <a href="mailto:informes@apromacae.com">informes@apromacae.com</a> or <a href="mailto:notariope@yahoo.com">notariope@yahoo.com</a></td>
<td></td>
</tr>
</tbody>
</table>

WEB: [http://www.worldcocoafoundation.org](http://www.worldcocoafoundation.org)
WEB: http://www.apromacae.com

Asociación de Productores de Plantas Medicinales Ecológicas de La Unión - PERÚ (APROPLAME), Régulo Chirinos.  
E-MAIL: aproplame@aedes.com.pe

Peruvian Institute of Natural Products (Instituto Peruano de Productos Naturales), Avenida La Universidad 595, La Molina, Lima 12. TEL: (51) 1 628 4026 / FAX: (51) 1 628 2660
E-MAIL: info@ippn.org.pe
WEB: http://www.ippn.org.pe
SHAPE THE FUTUR OF YOUR SECTOR’S SUCCESS

HOW TO DEVELOP A SECTOR STRATEGY