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MEDICINAL PLANTS AND EXTRACTS
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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. 36 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, 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.
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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, Columbia, 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".

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:

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SPECIAL FEATURES

Issue No. 36 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 medicinal plants or extracts that are used therapeutically for relief of pain associated with arthritic conditions: **Devil's claw root tuber** (Africa; [Namibia](#)), **Chinese lovage rhizome** (China), **Nettle leaf** (Europe), **Galangal rhizome** (India), **Black cohosh rhizome extract** (North America; USA), and **Cat's claw stem bark extract** (South America; [Peru](#)).

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: 06 September 2010

CURRENCY	CODE	UNITS 1 / USD	UNITS 1 / EUR
British Pound	GBP	0.6506	0.8336
Canadian Dollar	CAD	1.0371	1.3288
Chinese Yuan Renminbi	CNY	6.7881	8.6971
Egyptian Pound	EGP	5.704	7.3081
EURO	EUR	0.7805	1.0000
Hong Kong Dollar	HKD	7.7675	9.952
Indian Rupee	INR	46.59	59.6925
Japanese Yen	JPY	84.185	107.8603
Malaysian Ringgit	MYR	3.1226	4.0008
Mexican Peso	MXN	12.944	16.5842
Moroccan Dirham	MAD	8.6299	11.0569
Nepalese Rupee	NPR	74.6	95.5798
Peruvian Nuevo Sol	PEN	2.8005	3.5881
Russian Ruble	RUB	30.603	39.2095
South African Rand	ZAR	7.2393	9.2752
Swiss Franc	CHF	1.0105	1.2947
Taiwan Dollar	TWD	31.8995	40.8706
United States Dollar	USD	1.0000	1.2812

Source: Yahoo!® Finance Currency Converter

Some Useful Terminology

AEZ:	Agri Export Zones
API:	Ayurvedic Pharmacopoeia of India
AYUSH:	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy
BP:	British Pharmacopoeia
BTFP:	BioTrade Facilitation Programme
CBD:	Convention on Biodiversity
cfu/g:	Colony-forming units per gram
C&F:	Cost & Freight; means the price includes cost and freight charges
CFR:	Seller has the same responsibilities as when shipping FOB, but shipping costs are prepaid by the seller
CIF:	Cost Insurance Freight; means the price includes cost, freight and insurance
CITES:	Convention on International Trade in Endangered Species of Wild Flora & Fauna
CL:	Container load
C/S:	Cut and sifted
COMTRADE:	Commodity Trade Statistics Database
COSEWIC:	Committee on the Status of Endangered Wildlife in Canada
EDQM:	European Directorate for the Quality of Medicines
EMA:	European Medicines Agency
Essential Oils:	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
Extracts:	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
EXW:	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
Farm Gate Price:	Refers to the dollar value of agricultural products that you receive from direct farm sales or the value of primary products used for processing
FAS:	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.
FAS Value:	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
FCA:	Free carrier: seller is responsible for costs until the buyer's named freight carrier takes charge
FCL:	Full container load
FLO:	Fairtrade Labelling Organizations International
FOB:	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
FOR & FOT:	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.
FSC:	Forest Stewardship Council
FTA:	Free Trade Agreement
FTC:	Fair Trade Certified
FWC:	FairWild Certified
FWF:	FairWild Foundation
GACP:	Good Agricultural and Collection Practice
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
ISSC-MAP:	International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants
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
NESOI:	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
UEBT:	Union for Ethical Biotrade
UPI:	Unani Pharmacopoeia of India
USD:	United States Dollar
USDA:	United States Department of Agriculture
USP:	United States Pharmacopoeia
VAT:	Value Added Tax

AFRICA

TAKING A CLOSER LOOK AT THE DEVIL'S CLAW TRADE FROM NAMIBIA

The Republic of Namibia is the world's largest producer and exporter of the popular herbal drug devil's claw root. With 2009 exports of nearly 380,000 kg,¹ Namibia accounts for over 90% of the global export trade. Devil's claw grows wild mainly in the Kalahari sands of Namibia, Botswana, South Africa, Angola, and to a lesser extent in Zambia, Zimbabwe and Mozambique. There are two species in commerce:

- (1) *Harpagophytum procumbens* (Burch.) DC. ex Meisn. (with two sub-species, *procumbens* and *transvaalense*); and
- (2) *Harpagophytum zeyheri* Decne. (with three sub-species, *zeyheri*, *sublobatum* and *schijffii*).²

Devil's claw root is used not only in the traditional medicine systems of southern Africa but has been integrated into American and European systems of traditional herbal medicine.

Botanical names: *Harpagophytum procumbens* DC. (Family: Pedaliaceae)
Harpagophytum zeyheri Decne. (Family: Pedaliaceae)

Common names:

Afrikaans:	Duiwelsklou, Beesdubbetje
Danish:	Djævleklo
Dutch:	Duivelsklauw
English:	Devil's claw
French:	Racine d'harpagophyton, Griffes du diable
German:	Teufelskrallenwurzel, Afrikanische Teufelskralle, Trampelklette
San:	//x'aatataba, tloutaxaba
Setswana	Sengaparile, kanako, lekgagamare, ghamagho
Spanish:	Uña del diablo, Raíz de harpago, Raíz de Windhoek,

Pharmacopoeial names: Harpagophyti radix (devil's claw root)
Harpagophyti extractum siccum (devil's claw dry extract)

Definitions

European pharmacopoeial-grade **Devil's Claw Root** consists of the cut and dried, tuberous secondary roots of *Harpagophytum procumbens* DC and/or *Harpagophytum zeyheri* Decne. It contains minimum 1.2 per cent of harpagoside (dried drug) as determined by high performance liquid chromatography (HPLC) method.³

European pharmacopoeia-grade **Devil's Claw Dry Extract** is a light brown powdered extract that is produced from **Devil's Claw Root** by an appropriate procedure using either water or a hydroalcoholic solvent that is at most equivalent in strength to ethanol (95 per cent V/V). It contains minimum 1.5 per cent of harpagoside (dried extract).⁴

Harmonized System Tariff Codes (HS Codes)

Devil's claw root: HS 1211.90 (Source: World Customs Organization (WCO))
Devil's claw dry extract: HS 1302.19 (Source: World Customs Organization (WCO))
HS 1302.1940.40 (Source: Harmonized Tariff Schedule of the United States (HTSUS))

¹ Hofmeyr W (ed.). Devil's claw. *Indigenous Natural Products (INP) Market Bulletin*. September 2010;1:2-3.

² Strohbach M, Cole D. Population dynamics and sustainable harvesting of the medicinal plant *Harpagophytum procumbens* in Namibia. Results of the R&D Project 800 86 005. Bonn, Germany: Bundesamt für Naturschutz (BfN). 2007. Available at: <http://www.bfn.de/fileadmin/MDb/documents/service/skript203.pdf>

³ European Pharmacopoeial Commission. Devil's Claw Root. In: *European Pharmacopoeia*, 7th edition (PhEur 7.0). Strasbourg, France: European Directorate for the Quality of Medicines (EDQM). 2010;1113-1114.

⁴ European Pharmacopoeial Commission. Devil's Claw Dry Extract. In: *European Pharmacopoeia*, 7th edition (PhEur 7.0). Strasbourg, France: European Directorate for the Quality of Medicines (EDQM). 2010;1112-1113.

Native Habitat

According to reports through the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES),⁵ the genus *Harpagophytum* occurs between 15 degrees and 30 degrees latitude in Namibia, Botswana, South Africa, Angola, and also to a lesser extent in Zambia, Zimbabwe and Mozambique. There are two species (*H. procumbens*, *H. zeyheri*) with five subspecies. Each subspecies has a distinct distribution area:

- *H. procumbens* ssp. *procumbens* is found in most of the sandy parts of Namibia and Botswana south of the distribution area of *H. zeyheri* ssp. *sublobatum* and in the Northern Cape region of South Africa.
- *H. procumbens* ssp. *transvaalense* occurs in a small distribution area in the NE tip of Transvaal, South Africa, on the border to Zimbabwe.
- *H. zeyheri* ssp. *sublobatum* grows in Angola and the northern parts of Namibia, Botswana, and the NE tip of South Africa.
- *H. zeyheri* ssp. *zeyheri* is found in the Transvaal, South Africa, as well as *H. zeyheri* ssp. *schijffii*, which only occurs in a very restricted area on the border.

Main Producing Areas

Most of the global supply comes from Namibia, with small amounts from South Africa and Botswana. While most roots are wild collected, a few experimental farms in South Africa and Namibia are providing a small percentage of the total exports.⁶ Much of the devil's claw root sourced from Namibia is harvested by members of rural communities in communal areas. It is harvested for commercial purposes in the Kavango, Caprivi, Otjozondjupa and Omaheke regions.⁷

Therapeutic Uses of Devil's Claw Root in selected Export Markets:

- **European Community:** Devil's claw root (cut or powdered) and extracts of devil's claw (dry extract, liquid extract, soft extract) are regulated as Traditional Herbal Medicinal Products (THMPs) in solid or liquid dosage forms or as herbal tea for oral use. The raw material must comply with the quality standards of the European Pharmacopoeia (PhEur) monograph. The approved therapeutic indications are:
 - Traditional herbal medicinal product for relief of minor articular pain; and
 - Traditional herbal medicinal product used for the relief of mild digestive disorders such as bloating and flatulence and where there is loss of appetite.⁸
- **North America (Canada):** Devil's claw root (dried, powdered, or prepared as a tea infusion, tea decoction or non-standardized extract) is regulated as a Natural Health Product (NHP) for oral use. The medicinal ingredient may comply with the specifications outlined in the Devil's Claw Root Monograph published in the European Pharmacopoeia (PhEur) or British Pharmacopoeia (BP). The approved therapeutic uses are:
 - Traditionally used in Herbal Medicine as a bitter to help stimulate appetite;
 - Traditionally used in Herbal Medicine to help relieve digestive disturbances such as dyspepsia; and
 - Used in Herbal Medicine to help relieve joint pain associated with osteoarthritis.⁹

⁵ Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Proposal 11.60: Inclusion of *Harpagophytum procumbens* in Appendix II in accordance with Article II 2(a). 21 December 1999. Available at: <http://www.cites.org/eng/cop/11/prop/60.pdf>

⁶ Stewart KM, Cole D. The commercial harvest of devil's claw (*Harpagophytum* spp.) in southern Africa: The devil's in the details. *J Ethnopharmacol.* 2005;100:225–236: <http://www.fitoica.com/Biblioteca/Revistas/Journal%20of%20Ethnopharmacology/2005/N16.pdf>

⁷ Hofmeyr W (ed.). Devil's claw. *Indigenous Natural Products (INP) Market Bulletin.* September 2010;1:2-3.

⁸ European Medicines Agency (EMA). Final Community Herbal Monograph on *Harpagophytum procumbens* DC. and / or *Harpagophytum zeyheri* Decne, Radix. London, United Kingdom: European Medicines Agency (EMA) Committee on Herbal Medicinal Products (HMPC). 06 November 2008. Available at: http://www.ema.europa.eu/docs/en_GB/document_library/Herbal_-_Community_herbal_monograph/2010/01/WC500059018.pdf

⁹ Health Canada Natural Health Products Directorate (NHPD). Devil's Claw. In: *NHPD Compendium of Monographs.* Ottawa, Ontario: Health Canada Natural Health Products Directorate. 2008-05-09: <http://webprod.hc-sc.gc.ca/nhp/d-bdipsn/monoReq.do?id=77&lang=eng>

Information on selected devil's claw medicines registered in the EU:

Atrosan®: <http://www.mhra.gov.uk/home/groups/l-unit1/documents/websiteresources/con014334.pdf>

DiaHarp: <http://www.mhra.gov.uk/home/groups/par/documents/websiteresources/con057087.pdf>

Flexiherb®: <http://www.mhra.gov.uk/home/groups/l-unit1/documents/websiteresources/con2030427.pdf>

Harpadol®: <http://www.mhra.gov.uk/home/groups/par/documents/websiteresources/con049303.pdf>

Harpagocaps: <http://www.mhra.gov.uk/home/groups/par/documents/websiteresources/con090788.pdf>

Quality Standards

Before exporting, it is useful to understand the quality standards for legal market access in the destination market. There are official quality standards monographs for devil's claw root and devil's claw dry extract published in the European Pharmacopoeia (PhEur 7.0 2010). The PhEur pharmacopoeial standards for Devil's Claw are in force in the EU-27 Member States and are also accepted as official standards in certain other countries including Australia and Canada among others.

Production Scenario

According to a report by the Millennium Challenge Account Namibia (MCA-N 2010),¹⁰ "Namibia's devil's claw is exported as dried, unprocessed slices, with low value addition. The harvesting method entails removing some, but not all, of the side tubers of the mature plants from the ground without disturbing the taproot. The harvested tubers are cleaned of soil and then cut into 5 mm-thick slices. The slices are then placed on netting raised off the ground in the shade to dry properly. The final products are packed into bags ready for the market."

A study by Strohbach and Cole (2007)¹¹ provides detailed information on sustainable harvesting of devil's claw root tubers; available online from the German Federal Agency for Nature Conservation (BfN) at: <http://www.bfn.de/fileadmin/MDB/documents/service/skript203.pdf>

Conservation Status

In Namibia, *Harpagophytum* species are protected under Schedule 9 of the Nature Conservation Ordinance. In Botswana, *Harpagophytum* species are protected under the Agricultural Resources Conservation Act. Harvest, trade and export from South Africa also require a permit. In 2000 there was a proposal to list *Harpagophytum* species in Appendix II of CITES. For more information on conservation status, various CITES documents are available download:

- **1999:** Proposal 11.60 for inclusion in Appendix II: <http://www.cites.org/eng/cop/11/prop/61.pdf>
- **2000:** Follow up of CoP11 Decisions: <http://www.cites.org/eng/com/PC/10/PC10-7-2.pdf>
- **2001:** Follow-up of CoP11 Decisions: <http://www.cites.org/eng/com/PC/11/E-PC11-08-01.pdf>
- **2002:** The Trade, Management and Biological Status of *Harpagophytum* spp. in Southern African Range States: <http://www.cites.org/common/com/PC/12/X-PC12-08-01.pdf>
- **2002:** Report of the Harpagophytum working group: http://www.cites.org/eng/com/PC/12/E-Minutes_PC12A3.pdf
- **2002:** Follow-up of CoP11 Decisions: <http://www.cites.org/common/com/PC/12/X-PC12-08-01.pdf>
- **2002:** Common statement by the participants of the regional devil's claw conference: <http://www.cites.org/eng/com/PC/12/E-PC12-08-01-01.pdf>
- **2002:** Imports of *Harpagophytum* in Germany: <http://www.cites.org/eng/com/PC/12/E-PC12-08-01-02.pdf>
- **2003:** [Decisions 12.63-65] Implementation of decisions: <http://www.cites.org/eng/com/PC/13/E-PC13-09-01-01.pdf>

¹⁰ Stewart KM, Cole D. The commercial harvest of devil's claw (*Harpagophytum* spp.) in southern Africa: The devil's in the details. *J Ethnopharmacology*. 2005;100:225–236: <http://www.fitoica.com/Biblioteca/Revistas/Journal%20of%20Ethnopharmacology/2005/N16.pdf>

¹¹ Strohbach M, Cole D. Population dynamics and sustainable harvesting of the medicinal plant *Harpagophytum procumbens* in Namibia. Results of the R&D Project 800 86 005. Bonn, Germany: Bundesamt für Naturschutz (BfN). 2007. Available at: <http://www.bfn.de/fileadmin/MDB/documents/service/skript203.pdf>

- **2003:** [Decisions 12.63-12.65] Implementation of Decisions in Namibia: <http://www.cites.org/eng/com/PC/13/E-PC13-09-01-02.pdf>
- **2004:** [Decisions 12.63-12.65] – Implementation of Decisions in Botswana: <http://www.cites.org/common/com/PC/14/X-PC14-19-Inf.pdf>
- **2004:** [Decisions 12.63-12.65]. Implementation of Decisions in Namibia: <http://www.cites.org/common/com/PC/14/X-PC14-14-Inf.pdf>
- **2004:** Follow-up of CoP12 Decisions. Progress Report: <http://www.cites.org/eng/com/PC/14/E-PC14-06-02.pdf>
- **2006:** *Harpagophytum* spp. Sixteenth meeting of the Plants Committee Lima (Peru): <http://www.cites.org/eng/com/pc/16/E-PC16-16.pdf>

Selected Exporters of Devil's Claw

NAMIBIA

- ECOSO Dynamics cc. <http://ecoso.net>
- Harpago (Pty) Ltd harpago@iafrica.com.na

SOUTH AFRICA

- Afrinatural Holdings <http://www.afrinatural.com>
- Bulk Botanicals <http://www.bulkbotanicals.com>
- Coatzee & Coatzee (Pty) Ltd <http://www.coetzeeld.co.za>
- Global Fusion Trading C.C. <http://www.globalfusiontrading.com>
- Mokuti Herbs International <http://www.mokuti.co.za>
- Westman Imports & Exports <http://westmanimportsexports.yolasite.com>

Market Prices

In Namibia, higher prices are being paid for certified organic devil's claw root than for conventionally harvested roots. In 2009, the average price paid "Cost and Freight" (CFR) for certified organic dried roots of *H. procumbens* was about €5.00/kg. The average price paid for certified organic roots of *H. zeyheri* ranged between €2.70/kg and €3.30/kg. For sustainably harvested devil's claw, harvesters are receiving close to 50% of the export value. This is in stark contrast to the majority of devil's claw sales, where harvesters typically receive between 15% and 30% of the value.¹²

Information on spot market prices is available from some of the wholesale distribution companies in the United States. **Table 1** provides spot market prices from three U.S. companies; Mountain Rose Herbs (Oregon), Pacific Botanicals (Oregon), and San Francisco Herb & Natural Food Co. (California). Ton quantities or Full Container Load prices would of course be lower than these.

Table 1: Devil's Claw Root 2010 Spot Market Prices (USD per lb) / Selected Distributors

Devil's Claw Root Wholesale distributors	Processed form	1-4 lb	5-9 lbs	10-24 lbs	25-49 lbs	50-99 lbs	>100 lbs
Mountain Rose Herbs							
- Certified organic (South Africa)	Cut and sifted	\$11.00	\$9.90	\$9.35	\$8.80	\$7.70	\$6.60
- Certified organic (Namibia)	Powdered	\$12.50	\$11.25	\$10.63	\$10.00	\$8.75	\$7.50
Pacific Botanicals							
- Certified organic (South Africa)	Cut and sifted	\$14.30	\$13.74	\$13.74	\$13.00	\$13.00	\$12.50
San Francisco Herb & Natural Food Co.							
- Conventional (South Africa)	Cut and sifted	\$12.90	\$12.26	\$11.61	\$10.97	Inquire	Inquire
- Conventional (South Africa)	Powdered	\$12.10	\$11.50	\$10.89	\$10.29	Inquire	inquire

Note: In the U.S. many distributors sell in pound (lb) quantities rather than metric kilogram (kg) quantities. 1 kg = 2.2046 lb.

SOURCES:

- Mountain Rose Herbs Wholesale: <http://www.mountainroseherbs.com/wholesale.html>
 Pacific Botanicals Online Store: <http://www.pacificbotanicals.com/store>
 San Francisco Herb & Natural Food Co. Wholesale Catalog 2010: <http://www.herbpicetea.com/SFPromo.PDF>

¹² Stewart KM, Cole D. The commercial harvest of devil's claw (*Harpagophytum* spp.) in southern Africa: The devil's in the details. *J Ethnopharmacology*. 2005;100:225–236: <http://www.fitoica.com/Biblioteca/Revistas/Journal%20of%20Ethnopharmacology/2005/N16.pdf>

Volume of Namibia's Devil's Claw Exports

According to a report by the Millennium Challenge Account Namibia (MCA-N 2010),¹³ "Germany is the most significant importer, with 102,620 kg in 2009, followed by Italy (96,522 kg), Poland (66,000 kg), France (61,534) kg, and African countries (mainly South Africa) and various other countries with less than 15,000 kg each." **Table 2** shows Namibian Exports of Devil's Claw Root 2000-2009 in terms of volume (kg).

Table 2: Namibian Exports of Devil's Claw Root / 2000 – 2009 / Export Volume (kg)

Period	Namibian Export Volume (kg)
2000	379,740 kg
2001	726,333 kg
2002	1,018,616 kg
2003	457,485 kg
2004	283,142 kg
2005	Not known
2006	Not known
2007	Not known
2008	686,000 kg
2009	378,702 kg

SOURCES:

Hofmeyr W (ed.). Devil's claw. *Indigenous Natural Products (INP) Market Bulletin*. September 2010;1:2-3.

Strohbach M, Cole D. Population dynamics and sustainable harvesting of the medicinal plant *Harpagophytum procumbens* in Namibia. Results of the R&D Project 800 86 005. Bonn, Germany: Bundesamt für Naturschutz (BfN). 2007. Available at: <http://www.bfn.de/fileadmin/MDB/documents/service/skript203.pdf>

BOTANICAL PRODUCT SPECIFICATIONS

Devil's Claw Root

A product of Namibia and South Africa

PRODUCT	Devil's Claw Root PhEur ¹⁴
Botanical names	<i>Harpagophytum procumbens</i> DC. and/or <i>Harpagophytum zeyheri</i> Decne. (Fam. Pedaliaceae)
Pharmacopoeial name	Harpagophyti radix
Part used	Cut and dried, tuberous secondary roots
Cultivated or wild	Wild collected; small amount of cultivation
Storage	Store protected from moisture.
IDENTIFICATION	
Characters	The root is greyish-brown or dark brown.
Macroscopic	PhEur Devil's Claw Root Monograph ID Test A
Microscopic	PhEur Devil's Claw Root Monograph ID Test B
Thin-layer chromatography	PhEur Devil's Claw Root Monograph ID Test C
TESTS	
Starch	Examine the powdered root under a microscope using water R. Add iodine solution R1. No blue colour develops.
Loss on drying	NMT 12.0% (PhEur 2.2.32)
Total ash	NMT 10.0% (PhEur 2.4.16)
Content	NLT 1.2% of harpagoside (dried drug)
CONTAMINATION	
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
THERAPEUTIC USES	Traditional herbal medicinal product for relief of minor articular pain; and Traditional herbal medicinal product used for the relief of mild digestive disorders such as bloating and flatulence and where there is loss of appetite. ¹⁵

¹³ Stewart KM, Cole D. The commercial harvest of devil's claw (*Harpagophytum* spp.) in southern Africa: The devil's in the details. *J Ethnopharmacology*. 2005;100:225–236: <http://www.fitoica.com/Biblioteca/Revistas/Journal%20of%20Etnopharmacology/2005/N16.pdf>

¹⁴ European Pharmacopoeial Commission. Devil's Claw Root. In: *European Pharmacopoeia*, 7th edition (PhEur 7.0). Strasbourg, France: European Directorate for the Quality of Medicines (EDQM). 2010;1113-1114.

¹⁵ European Medicines Agency (EMA). Final Community Herbal Monograph on *Harpagophytum procumbens* DC. and / or *Harpagophytum zeyheri* Decne, Radix. London, United Kingdom: European Medicines Agency (EMA) Committee on Herbal Medicinal Products (HMPC). 06 November 2008. Available at: http://www.ema.europa.eu/docs/en_GB/document_library/Herbal_-_Community_herbal_monograph/2010/01/WC500059018.pdf

BOTANICAL RAW MATERIALS (indicative bulk prices)

Product	Botanical name	Cult or wild	Origin	Price/kg USD	Basis
Cape aloe latex, whole	<i>Aloe ferox</i>	NK	South Africa	8.52-9.23	CIF EU
Cape aloe latex, powdered	<i>Aloe ferox</i>	NK	South Africa	9.62-10.92	CIF EU
Buchu leaf, TBC	<i>Agathosma betulina</i>	Cultivated	South Africa	56	FOB USA
Buchu leaf, whole	<i>Agathosma betulina</i>	NK	South Africa	35.62	CIF EU
Chamomile flower**	<i>Matricaria recutita</i>	Cultivated	Egypt	10.85	FOB USA
Clove flower bud	<i>Syzygium aromaticum</i>	Cultivated	Madagascar	6.06	Spot NY
Devil's Claw root, whole	<i>Harpagophytum spp.</i>	Wild	Namibia or SA	6.63	CIF EU
Devil's Claw root, cut pieces	<i>Harpagophytum spp.</i>	Wild	Namibia or SA	8.84	CIF EU
Devil's Claw root, powdered	<i>Harpagophytum spp.</i>	Wild	Namibia or SA	9.75	CIF EU
Fennel fruit, sweet	<i>Foeniculum vulgare</i>	Cultivated	Egypt	2.61	Spot NY
Gotu kola herb, whole	<i>Centella asiatica</i>	Wild	Madagascar	7.87	CIF EU
Gotu kola herb, TBC	<i>Centella asiatica</i>	Wild	Madagascar	11.7	CIF USA
Gotu kola herb, powdered	<i>Centella asiatica</i>	Wild	Madagascar	10.66	CIF EU
Hibiscus flower** - TBC	<i>Hibiscus sabdariffa</i>	Cultivated	Egypt	11.75	FOB CA
Hoodia, chips	<i>Hoodia gordonii</i>	Wild	Namibia or SA	112.84	CIF EU
Hoodia, powder	<i>Hoodia gordonii</i>	Wild	Namibia or SA	112.58	CIF EU
Pygeum bark, whole	<i>Prunus africana</i>	Wild	Africa	9.23	CIF EU
Pygeum bark, powdered	<i>Prunus africana</i>	Wild	Africa	12.35	CIF EU
Rooibos herb** - TBC	<i>Aspalathus linearis</i>	Cultivated	South Africa	17.75	FOB USA
Rooibos herb, cut & sifted	<i>Aspalathus linearis</i>	Cultivated	South Africa	2.8	CIF EU
Spearmint leaf ** - TBC	<i>Mentha spicata</i>	Cultivated	Egypt	7.34	FOB USA

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

Quality Standards: Official quality standards monographs for most the above listed botanical raw materials can be found in either the Egyptian Pharmacopoeia (3rd edition, 1984; available in Arabic and English editions), the Ghana Herbal Pharmacopoeia (1st Edition 1992; 2nd Edition 2007), and/or the European Pharmacopoeia (PhEur 6th edition 2009) or French Pharmacopoeia (PhFr).

MEETINGS AND TRADE SHOWS AFRICA

September 25-28, 2010

SAHARA; 23rd 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.

September 26-30, 2010

IFEAT 2010 CONFERENCE

Venue: Marrakech, Morocco
 Organizer: The International Federation of Essential Oils and Aroma Trades (IFEAT):
<http://www.ifeat.org/contact>
 Contact: Chairman, IFEAT Marrakech Conference Committee Alain Frix
 E-MAIL: Alain.Frix@lyondellbasell.com
 WEB: http://www.ifeat.org/conferences_and_events

Conference theme: North African and Mediterranean essential oils and aromas 2010: Tales and Realities of our industry – a new decade of challenges and opportunities.

CHINA and other East Asian Countries

TAKING A CLOSER LOOK AT THE CHINESE LOVAGE ROOT TRADE FROM CHINA

The People's Republic of China (PRC) is the world's leading consumer, producer and exporter of the herbal drug Chinese Lovage, with a 2009 export volume of 2,791,276 kg. The top-five importers of Lovage rhizome and root from the PRC account for nearly 100% of the total export value and value; (1) Socialist Republic of Vietnam, (2) Hong Kong Special Administrative Region (SAR) of the PRC, (3) Taiwan, (4) Japan, and (5) Republic of Korea.

Botanical names: Chinese Lovage: *Ligusticum sinense* Oliver or *Ligusticum jeholense* Nakai et Kitagawa [Fam. Apiaceae]
Sichuan Lovage: *Ligusticum chuanxiong* Hort. [Fam. Apiaceae]

Common names:
Chinese: Gaoben (Chinese lovage); Chuanxiong (Sichuan lovage)
English: Chinese lovage (gaoben); Sichuan lovage (chuanxiong)
Japanese: Kohon (Chinese lovage); Senkyu (Sichuan lovage or Japanese chuanxiong)
Korean: Kobon (Chinese lovage); Cheon-gung (used to describe rhizome of *Cnidium* and/or *Ligusticum* species)

Pharmacopoeial names: Angelicae Tenuissimae Radix KHP
Cnidii Rhizoma JP
Rhizoma et Radix Ligustici PPRC
Rhizoma Chuanxiong PPRC

Definitions

Angelicae Tenuissimae Radix KHP is the rootstock and root of *Angelica tenuissima* Nakai (= *Ligusticum tenuissimum* Kitagawa), *Ligusticum sinense* Oliver or *Ligusticum jeholense* Nakai et Kitagawa.¹⁶

Cnidii Rhizoma JP is the rhizome of *Cnidium officinale* Makino, usually passed through hot water.¹⁷ Note: Also known as Japanese "chuanxiong"; some of the supply in Japan is likely *Ligusticum chuanxiong* imported from China. Some authorities suggest they may be the same species.

Rhizoma Chuanxiong PPRC consists of the dried rhizome of *Ligusticum chuanxiong* Hort. It contains not-less-than 12.0% of ethanol-soluble extractives.¹⁸ Note: *Ligusticum wallichii* is also designated as "chuanxiong".

Rhizoma et Radix Ligustici PPRC consists of the dried rhizome and root of *Ligusticum sinense* Oliver or of *Ligusticum jeholense* Nakai et Kitag. It contains not-less-than 9.0% of ethanol-soluble extractives and not-less-than 0.050% of ferulic acid.¹⁹

Harmonized System Tariff Codes (HS Codes)

Rhizoma Ligustici	HS 1211.9018	China Customs Tariff Schedule
Rhizoma Ligustici Wallichii	HS 1211.9025.005	Standard Classification of Commodities of the Republic of China
Ligusticum extract	HS 1302.1990.99	hs.e-to-China.com

¹⁶ Korea Food and Drug Administration. *Angelicae Tenuissimae Radix*. In: *The Korean Herbal Pharmacopoeia* (English Edition). Seoul, South Korea: Korea Food and Drug Administration. 2002;14.

¹⁷ Committee of the Japanese Pharmacopoeia. *Cnidii Rhizoma*. In: *Japanese Pharmacopoeia* Fifteenth Edition (JP XV). Tokyo, Japan: Ministry of Health Labour and Welfare. 2007;1275-1276.

¹⁸ State Pharmacopoeia Commission of the People's Republic of China. *Rhizoma Chuanxiong*. In: *Pharmacopoeia of the People's Republic of China*, English Edition 2005. Beijing, P.R. China: People's Medical Publishing House. 2005;254-255.

¹⁹ State Pharmacopoeia Commission of the People's Republic of China. *Rhizoma et Radix Ligustici*. In: *Pharmacopoeia of the People's Republic of China*, English Edition 2005. Beijing, P.R. China: People's Medical Publishing House. 2005;266-267.

Native Habitat

Chinese lovage (*Ligusticum sinense*) grows wild in forests, montane scrub, grassy slopes, stream sides, and moist road-sides at altitudes between 500 to 2700 m in the Chinese Provinces of Gansu, Guizhou, Henan, Hubei, Jiangxi, Nei Mongol, Shaanxi, Sichuan, and Yunnan. There are two varieties and three cultivars:

Varieties:

- *Ligusticum sinense* var. *sinense* grows wild in forests, grassy slopes, and stream sides at altitudes between 500 to 2700 m in the southern part of the Huang He (Yellow River) basin.
- *Ligusticum sinense* var. *hupehense* grows wild along moist roadsides at altitudes between 1500 and 1600 m in Hubei Province.

Cultivars:

- *Ligusticum sinense* 'Chuanxiong' is cultivated in Gansu, Henan, Hubei, Nei Mongol, Shaanxi, and western Sichuan.
- *Ligusticum sinense* 'Fuxiong' is cultivated in Hubei, Jiangxi, and Sichuan Provinces.
- *Ligusticum sinense* 'Jinxiong' occurs in montane scrub and grassy slopes between 800 and 3100 m, and is cultivated in Guizhou, Shaanxi, Sichuan, and Yunnan Provinces.

Chinese lovage (*Ligusticum jeholense*) grows wild in forests, meadows, stream sides and damp places at altitudes between 1200 and 2500 m in the Chinese Provinces of Hebei, Jilin, Liaoning, Shandong, and Shanxi.²⁰

Note: In Japan "*Ligusticum chuanxiong*" is referred to as "Japanese chuanxiong" or as "senkyu" (= *Cnidium officinale* Makino), which is cultivated in Hokkaido among other districts. Since Japan is a major importer of Chinese and Sichuan lovage rhizome, for use in Kampo medicines, it is highly likely that Chinese *Ligusticum* spp. exports are subsequently classified and used as *Rhizoma Cnidium* according to the monograph of the Japanese Pharmacopoeia (JP XV). The JP does not contain a monograph for *Ligusticum* spp.

Main Producing Areas

Sichuan, Yunnan, Gansu, Guangdong, and Hubei Provinces of the PRC.

Medicinal Uses in Traditional Chinese Medicine (TCM):

Rhizoma Chuanxiong:

Action: To promote the flow of blood and qi, dispel wind and relieve pain

Indications: Menstrual disorders, amenorrhea, dysmenorrhea, abdominal pain with mass formation, pricking pain in the chest and costal regions, swelling and pain due to traumatic injuries, headache, rheumatic arthralgia (joint pain).

Rhizoma et Radix Ligustici:

Action: To relieve pain by dispelling wind, cold and damp.

Indications: Pain at the top of the head in cold; rheumatic arthralgia (joint pain).

Quality Standards

For the quality control testing of Chinese or Sichuan lovage rhizome (or Japanese Chuanxiong), 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 various official pharmacopoeial quality standards in China, Japan and Korea.

²⁰ Pu Fading (溥发鼎 Pu Fa-ting), Watson MF. *Ligusticum*. In: *Flora of China*. 2005;14:140.150. Available at: <http://flora.huh.harvard.edu/china/mss/volume14/APIACEAE.pdf>

Table 1: Comparison of Pharmacopoeial Quality Standards / Japan, Korea, China

Standard	Cnidii Rhizoma JP	Angelicae Tenuissimae Radix KHP	Rhizoma Chuanxiong PPRC	Rhizoma et Radix Ligustici PPRC
Definition	Rhizome of <i>Cnidium officinale</i> (Japanese chuanxiong)	Rootstock and root of <i>Angelica tenuissima</i> (= <i>Ligusticum tenuissimum</i>), <i>Ligusticum sinense</i> or <i>Ligusticum jeholense</i>	Rhizome of <i>Ligusticum chuanxiong</i> (= <i>Ligusticum sinense</i> cultivar 'chuanxiong')	Rhizome and root of <i>Ligusticum sinense</i> or <i>Ligusticum jeholense</i>
Identification tests:	Macroscopic Microscopic Organoleptic	Macroscopic Organoleptic	Macroscopic Microscopic Organoleptic Thin-layer chromatography	Macroscopic Organoleptic Thin-layer chromatography
Loss on drying	No standard	NMT 11.0%	No standard	No standard
Water	No standard	No standard	No standard	NMT 10.0%
Foreign matter	No standard	NMT 8.0% root hairs and other foreign matter	No standard	No standard
Total ash	NMT 6.0%	NMT 9.0%	NMT 6.0%	NMT 15.0%
Acid-insoluble ash	NMT 1.0%	NMT 3.0%	NMT 2.0%	NMT 10.0%
Content	No standard	NLT 0.3 mL essential oil (50 g)	No standard	NLT 0.050% ferulic acid (HPLC)
Ethanol-soluble extractive	No standard	NLT 21.0%	NLT 12.0%	NLT 9.0%
Water-soluble extractive	No standard	NLT 18.0%	No standard	No standard

LEGEND

JP XV 2007: Japanese Pharmacopoeia
 KHP 2002: Korean Herbal Pharmacopoeia
 PPRC 2005: Pharmacopoeia of the People's Republic of China

Production Scenario

Chinese lovage rhizome and root (*Ligusticum sinense*) is collected in the autumn when the stem and leaves have withered or in the following spring when new growth has started. The rhizome and root are removed from soil and dried.²¹ Chinese lovage is one of only a few medicinal plants that is cultivated on a commercial scale in the Chinese Himalayas of Yunnan Province.²²

Sichuan lovage rhizome (*Ligusticum chuanxiong* = *L. sinense* cultivar 'chuanxiong') is collected in summer when the node of the stem becomes obviously swollen and purplish. It is removed from soil, baked gently to dryness after sun-drying, and then is removed from the rootlets.²³ Sichuan lovage is commonly wild collected in the Minshan Mountains of Sichuan Province,²⁴ but it is also cultivated at approved Good Agricultural Practice (GAP) cultivation bases established in Sichuan Province.²⁵ For example, *Sichuan Green Pharmaceuticals Sciences & Technology Developing Co. Ltd.*, Wenchuan County, Sichuan Province, was approved in 2006 as a GAP base for the cultivation of Rhizoma Ligustici Chuanxiong.²⁶

Selected Exporters of Lovage Root and Rhizome and Extracts:

Suppliers of the botanical raw materials:

China Meheco Corporation
 Dasherb Corp.
 Huisong Pharmaceuticals

<http://www.meheco.com>
<http://www.dasherb.com>
<http://www.huisongpharm.com>

²¹ State Pharmacopoeia Commission of the People's Republic of China. Rhizoma et Radix Ligustici. In: Pharmacopoeia of the People's Republic of China, English Edition 2005. Beijing, P.R. China: People's Medical Publishing House. 2005;266-267.
²² Hamilton AC (ed.). Case study 10: The development of methodologies for conservation of medicinal plants based on field-level application at Ludian, Yunnan (China). In: Medicinal plants in conservation and development: case studies and lessons learnt. Salisbury, United Kingdom: Plantlife International. 2008; 52-56. Available at: http://www.plantlife.org.uk/uploads/documents/Medicinal_plants_report_2008_FINAL_PDF.pdf
²³ State Pharmacopoeia Commission of the People's Republic of China. Rhizoma Chuanxiong. In: Pharmacopoeia of the People's Republic of China, English Edition 2005. Beijing, P.R. China: People's Medical Publishing House. 2005;254-255.
²⁴ TRAFFIC Bulletin. 2005;20(3):93-94.
²⁵ Wenyuan Gao et al. Good Agriculture Practice (GAP) and Sustainable Resource Utilization of Chinese Materia Medica. *J. Plant Biotechnology*. 2002;4(3):103-107: <http://homepage.agron.ntu.edu.tw/~menchi/%B0%AA%B5%A5%A7@%AA%AB%BE%C7/SRI/GAP2.pdf>
²⁶ Leung PC, Cheng KF. Good Agricultural Practice (GAP) - Does It Ensure a Perfect Supply of Medicinal Herbs for Research and Drug Development? *International Journal of Applied Research in Natural Products*. 2008;1(2):1-8. Available at: <http://healthy-synergies.com/Documents/1-2-1-8.pdf>

Suppliers of extracts:

Draco Natural Products (Shanghai)
Fu Zhou Corona Science & Technology
Hunan Nature Pharmaceutical Co. Ltd.
Jory Herb Ltd.

<http://www.dracoherbs.com>
<http://www.chinacorona.com>
<http://www.hunannature.com>
<http://joryherb.com>

Market Prices

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 Chinese or Sichuan lovage rhizome. Nor is there certainty that the declared customs values correspond to actual invoiced prices. In 2010, Japan, one of the top-five importers, is paying an average of USD \$5.303 / kg. The average price being paid by the leading importer, Vietnam, is USD \$1.533 / kg.

Table 2 shows the average prices paid, in units of USD per kg, for China's main export markets for rhizomes and roots of *Ligusticum* species.

Table 2: Average prices of Rhizoma Ligustici in selected importing countries / 2008, 2009 and 2010 / USD per kg / %Change of price

Importer	Unit	Average Price (USD)			% change of price	
		2008	2009	2010	2009	2010
Japan	\$ per kg	6.312	5.378	5.303	-14.79%	-1.41%
Taiwan prov.	\$ per kg	1.625	1.351	1.919	-16.83%	42.05%
Korea Rep.	\$ per kg	1.679	1.985	1.834	18.18%	-7.61%
Vietnam	\$ per kg	1.552	1.501	1.533	-3.30%	2.11%
Hong Kong	\$ per kg	0.791	0.984	1.133	24.39%	15.17%

SOURCE: China Trade Data

Value and Volume of China's Exports of Rhizoma Ligustici (HS 1211.9018)

In calendar year 2009, China exported 2,791,276 kg (customs value of USD \$4,433,741) of Chinese and/or Sichuan Lovage rhizome and root, about 11% less than previous year. See **Table 4**. As the PRC is the only producer, there are no imports into the PRC.

In terms of volume (kg), the top-five importers of Chinese and/or Sichuan Lovage rhizome and root accounted for over 97% of total PRC exports; Hong Kong Special Administrative Region (SAR) of the PRC 959,837 kg (34.39%), Socialist Republic of Vietnam 722,365 kg (25.88%), Taiwan 638,384 kg (22.87%), Republic of Korea 264,163 kg (9.46%) and Japan 134,650 kg (4.82%). See **Table 3**.

In terms of reported customs value (USD), the top-five importers accounted for over 93% of the PRC's total exports of Rhizoma Ligustici; Socialist Republic of Vietnam USD \$1,084,188 (24.45%), Hong Kong SAR \$944,490 (21.30%), Taiwan \$862,622 (19.46%), Japan \$724,207 (16.33%), and Republic of Korea \$524,275 (11.82%). **Table 3** shows that the top importers of Chinese and/or Sichuan Lovage rhizome and root (in terms of quantity) accounted for over 97% of the PRC's total export volume.

Although the PRC Trade Data shows 2009 exports of Rhizoma Ligustici to Taiwan at 638,384 kg (valued at USD \$862,622), utilizing an 8-digit HS Code 1211.9018, this is difficult to reconcile with the Taiwanese import trade data due to differences in nomenclature and assignment of tariff codes. According to Taiwanese 2009 import trade data, Taiwan imported 861,484 kg (valued at USD \$737,094) of "*Ch'uan Kung*" (*Rhizoma Ligustici Wallichii*) from the PRC using their 11-digit CCC Code 1211.9025.005. Taiwan does not have another code assigned for any other species or designations of *Ligusticum*. Note: *Ligusticum wallichii* is traded as a synonym of *Ligusticum chuanxiong* which is a cultivar of *Ligusticum sinense*. **Table 5** shows the value and volume of Taiwan's imports of Rhizoma Ligustici from the PRC for 2007, 2008 and 2009.

**Table 3: Importers of Chinese or Sichuan Lovage rhizome / 2009 Export Quantity (kg)
2009 %share of China's Rhizoma Ligustici Exports in terms of quantity (kg)**

Importing Country	2009 Export Quantity (kg)	2009 Share in terms of quantity (kg)
TOTAL:	2,791,276	100.00%
Hong Kong	959837	34.39%
Vietnam	722365	25.88%
Taiwan prov.	638384	22.87%
Korea Rep.	264163	9.46%
Japan	134650	4.82%
Malaysia	21730	0.78%
Indonesia	16666	0.60%
Singapore	9161	0.33%
United States	6646	0.24%
Thailand	4823	0.17%
Macau	3952	0.14%
Australia	3453	0.12%
United Kingdom	1880	0.07%
Netherlands	1040	0.04%
Canada	895	0.03%
New Zealand	547	0.02%
Ukraine	502	0.02%
Belgium	268	0.01%
Germany	248	0.01%
Czech Rep	36	0.00%
Israel	30	0.00%

SOURCE: China Trade Data

**Table 4: China Exports of Rhizoma Ligustici
2007, 2008, 2009 / Trade value (USD) / Trade quantity (kg)**

Rhizoma Ligustici HS 12119018	Export Trade Value (USD)			Export Trade Volume (kg)		
	2007	2008	2009	2007	2008	2009
Importing Countries						
TOTAL (all importers)	5493308	4571432	4433742	6722878	3147009	2791276
Vietnam	420410	611710	1084188	247973	394130	722365
Hong Kong	2829569	961400	944490	4995907	1215343	959837
Taiwan prov.	679253	957590	862622	478756	589404	638384
Japan	52275	398473	724207	14689	63127	134650
Korea Rep.	1214635	1346501	524275	885998	801826	264163
Malaysia	41117	74483	126239	18797	17985	21730
Indonesia	65688	68473	57488	18477	17883	16666
Singapore	65252	41303	32120	17857	10731	9161
United States	51843	43210	25973	12758	12301	6646
United Kingdom	2990	5467	10279	1107	1032	1880
Thailand	38398	15721	10243	21937	8266	4823
Australia	3682	7304	7720	1097	2342	3453
Macau	8474	5368	7152	3475	2933	3952
Netherlands	3456	5941	7033	769	982	1040
Germany	9654	8684	3105	1188	513	248
Canada	3790	5393	2145	1440	2339	895
New Zealand	853	0	1861	333	0	547
Belgium	0	0	1770	0	0	268
Ukraine	0	259	314	0	506	502

Israel	0	0	298	0	0	30
Czech Rep	684	0	220	95	0	36
Italy	0	11782	0	0	5047	0
France	766	969	0	100	110	0
Switzerland	0	640	0	0	0	0
Mexico	0	569	0	0	173	0
Brazil	0	158	0	0	30	0
S. Africa	0	34	0	0	6	0
Saudi Arabia	519	0	0	125	0	0

SOURCE: China Trade Data

Table 5: Taiwan Imports of Rhizoma Ligustici / 2007, 2008, 2009 / Value (USD) / Volume (kg)

Ch'uan Kung (Rhizoma Ligustici Wallichii) CCC CODE: 12119025005	Taiwan Import Trade Value (USD)			Taiwan Import Trade Volume (kg)		
	2007	2008	2009	2007	2008	2009
Imported from:						
People's Republic of China	829,928	762,764	737,094	1,029,422	836,209	861,484

SOURCE: DIRECTORATE GENERAL OF CUSTOMS, MINISTRY OF FINANCE, ROC

BOTANICAL PRODUCT SPECIFICATIONS
Chinese Lovage Rhizome and Root
A product of China

PRODUCT	Chinese Lovage Rhizome and Root ²⁷
Botanical name	<i>Ligusticum sinense</i> Oliver or <i>Ligusticum jeholense</i> Nakai et Kitagawa (Fam. Apiaceae)
Pharmacopoeial name	Rhizoma et Radix Ligustici
Part used	Dried rhizome and root
Cultivated or wild	Wild collected and Cultivated
Harvest and post-harvest	Collected in autumn when stem and leaves withered or in the next spring when new growth has started; removed from soil and dried.
Storage	Preserve in a cool and dry place, protected from moisture and moth.
IDENTIFICATION	
Macroscopic	PPRC Monograph Description
Organoleptic	Color: Brown or dark brown Odor: Strongly aromatic Taste: Pungent, bitter and slightly numbing
Thin-layer chromatography	PPRC Monograph ID Test (PPRC Appendix VI B)
TESTS	
Water	NMT 10.0% (PPRC Appendix IX H, method 2)
Total ash	NMT 15.0% (PPRC Appendix IX K)
Acid-insoluble ash	NMT 10.0% (PPRC Appendix IX K)
Extractives	NLT 9.0% (Appendix X A)
Content	NLT 0.8% (ml/g) of volatile oil (PPRC Appendix X D)
Indications:	
	Pain at the top of the head in cold; rheumatic arthralgia.
Dosage:	
	3 to 9 grams

²⁷ Chinese Pharmacopoeia Commission. Rhizoma et Radix Ligustici. In: *Pharmacopoeia of the People's Republic of China, English Edition 2005*. Beijing, China: People's Medical Publishing House. 2005;266-267.

BOTANICAL RAW MATERIALS (indicative bulk prices)

Product	Botanical Name	Cultivated or Wild	Origin	USD / kg	Basis
Asian ginseng root	<i>Panax ginseng</i>	Cultivated	China	61.7	FOB SF
Coptis rhizome	<i>Coptis chinensis</i>	Cultivated	China	35.27-44.09	FOB SF
Eleuthero root	<i>Eleutherococcus senticosus</i>	Wild	Jilin Province	8.8	FOB SF
Garlic bulb	<i>Allium sativum</i>	Cultivated	China	4.23	Spot NY
Ginger rhizome, whole peeled	<i>Zingiber officinale</i>	Cultivated	China	5.09	Spot NY
Honeysuckle flower	<i>Lonicera hypoglauca</i>	Cultivated	Southern China	55.1	FOB SF
Lycium fruit	<i>Lycium barbarum</i>	Wild	Shaanxi Province	13.21	FOB SF
Schisandra fruit, northern	<i>Schisandra chinensis</i>	Wild	Jilin Province	48.5	FOB SF
Schisandra fruit, southern	<i>Schisandra sphenanthera</i>	Wild	Southern China	19.8	FOB SF

*Certified organic / ** Organic + Fair Trade / NK – Not known

Notes:

(1) Monographs providing quality standards and tests for the above listed Chinese herbs are published in the Pharmacopoeia of the Peoples Republic of China (PPRC English Edition 2005). Many are also published in the Japanese Pharmacopoeia (JP XV English Edition 2007) and/or the Korean Herbal Pharmacopoeia (KHP 2002 English Edition).

(2) Southern China has experienced unusual weather over the last quarter, which has impacted the availability of certain herbs. As a result, for example, the spot price for honeysuckle flower in San Francisco market has jumped from USD \$44.07 / kg to \$59.10 / kg.

MEETINGS AND TRADE SHOWS CHINA & OTHER EASTERN ASIAN COUNTRIES

September 7-27, 2010

INTERNATIONAL TRAINING WORKSHOP ON 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. 209

FAX: 86 10 64703166

EMAIL: zhzh@inbar.int, Wjin@inbar.int

WEB: <http://www.inbar.int/show.asp?BoardID=171&NewsID=597>

Conference topics:

- Sustainable management and development 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
- Comprehensive development of forest bio-chemical products
- Impact of NTFPs on poverty alleviation and rural sustainable development in the forest area
- Role of government in promoting NTFPs
- Industrial cooperation and NGOs and 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 9-11, 2010

THE 10th CHINA INTERNATIONAL HEALTHCARE EXPO

Venue: Beijing Exhibition Center
Organizer: Reed Exhibitions (China) Ltd.
Supporters: China National Pharmaceutical Group Corp., Reed Sinopharm Exhibitions Co., Ltd., China National Group Corp. of Traditional & herbal Medicine, China Society of Traditional Chinese Medicine, China Pharmaceutical Association, Chinese Pharmaceutical Culture Society, Hong Kong Chinese Medicine Merchants Association Limited, The Bangkok Medicine Trader's Association, International TCM Trading Development Association, Chinese Herbs Development Association
Contact: Mr. Rosemary Ma, Reed, Unit 4-5, level 12, Office Tower E1, The Towers, Orient Plaza, No 1 East Chang Ave., Dong Cheng District, Beijing, China
TEL: 86-10-85189070
FAX: 86-10-851890060
E-MAIL: interherb@reedsinopharm.com
WEB: <http://www.interherb.com.cn>

Exhibitor profile: Traditional Chinese Medicine (TCM) raw materials, TCM herbal decoction pieces, concentrated Chinese medicine granules, GAP plantation bases, TCM modernization bases of science & technology industry, animal extracts, botanical extracts, intermediates, natural health care product, apian products, sea products, TCM decoction machinery, pulverizers, pharmaceutical packing material & equipment, TCM extracting equipment.

September 21-23, 2010

BIO-FACH JAPAN 2010

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)
Acknowledged by: Ministry of Agriculture Forestry and Fisheries (MAFF), Ministry of the Environment, Japan External Trade Organization (JETRO), Asean-Japan Centre, Tokyo Metropolitan Gvt., Delegation of the European Commission in Japan, Embassy of the Federal Republic of Germany.
Supported by: Japan Self-Service Ass., Japan Retailers Association, Japan Chain Stores Ass., Nihon Wellness Movement, Organic Cotton Association.
Contact: Nürnberg Global Affairs GmbH, Messezentrum 90471 Nurnberg Germany, 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: <http://www.biofach-japan.com>

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

September 22-25, 2010

INTERNATIONAL SYMPOSIUM ON INTEGRATED SUSTAINABLE LIVELIHOOD DEVELOPMENT IN MOUNTAIN FOREST AREA

Venue: Xin Wu Zhou Da Jiu Dian (Xin Wu Zhou Grand Hotel), Lina'an, Zhejiang Province
Sponsors: Department of International Cooperation of Ministry of Science and Technology of the People's Republic of China (MOST), and the International Network for Bamboo and Rattan (INBAR), Zhejiang Science and Technology Department (ZPSTD), Forest Product Service of FAO, People's Government of Lin'an, Zhejiang Province.
Organizers: China Association for International Science Service Centre, International Centre for Integrated Mountain Development (ICIMOD), Zhejiang Forestry University.
Contact: INBAR Coordinator Zhu Zhaohua, Jon Wei
TEL: 86 10 64706161 ext. 301, 310
FAX: 86 10 64703166
EMAIL: zhzhu@inbar.int, wjin@inbar.int
WEB: <http://www.inbar.int/show.asp?BoardID=171&NewsID=625>

Discussion Topics will include the following points which could include commercialization of medicinal plants as non-timber forest products (NTFPs):

- Exploration and evaluation of the integrated sustainable livelihood development in Lin'an
- Protection and reconstruction of ecosystems and sustainable forest management in mountain forest areas
- Use, industrialization and commercialization of Non-Timber Forest Products

September 23-24, 2010

WORKSHOP ON "RESULT OF STUDY ON BIO TRADE POTENTIAL COMMODITY IN INDONESIA, PARTICULARLY IN SOUTH ACEH"

Venue: Hotel Aston, Jl. Balai Kota No.1 Medan, Indonesia
Organizer: The Government of Indonesia, United Nations Development Programme (UNDP)
Contact: Teuku Budi Hermawan; TEL: 081 26921 500 or Yurianto Arifin
TEL: 081 360248 179 / 081 180 6813.
E-MAIL: registry.id@undp.org

Within the framework of Peace Through Development Programme being implemented but the Government of Indonesia, a new initiative of A Gender-Responsive Approach to Reintegration and Peace Stabilization: Pilot Project in Aceh Selatan began in 2010. One of the key outputs of the initiative is about economic development support to vulnerable community previously affected by conflict, focusing on women, through community development approach that improve the supply chain of competitive commodities from the area. As a result the Government of Indonesia and UNDP organized this two-day workshop focused on nutmeg and patchouli.

September 29-October 1, 2010

FOOD INGREDIENTS ASIA INDONESIA 2010

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 (SEAFST) Center IPB.
Contact: Secretariat of International Seminar 2010, Attn: Gitapratwi & Virna Berliani Putri.
FAX: (+62) 251 8629901
E-MAIL: patpiseminar2010@yahoo.com
WEB: <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.

October 13-15, 2010

HEALTH INGREDIENTS (Hi) JAPAN 2010

Venue: Tokyo Big Sight Exhibition Center, East Halls 4.5.6., 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 15-17, 2010

SHANGHAI INTERNATIONAL CONFERENCE ON TRADITIONAL CHINESE MEDICINE AND NATURAL MEDICINE

Venue: Shanghai Dongjiao State Guest Hotel, Shanghai, China
Organizers: Modern Biotechnology & Pharmaceutical Industry Office of Shanghai Municipality
Co-Sponsors: American Society of Pharmacognosy (ASP), Society of Medicinal Plant Research (GA), TCM Pharmaceutical Analysis Specialty Committee of the World Federation of Chinese Medicine Society, Shanghai Institute of Materia Medica (CAS), Second Military Medical University, China, University of Mississippi, USA.
Contact: Shanghai Technological & Industrial Promotion Center of Traditional Chinese Medicine, 199 Guoshoujin Road, Z.J. Hi-tek Park, Pu Dong New Area, Shanghai 201203 P.R. China
TEL: (86-21) 5027 2737, (86-21) 5080 1050
FAX: (86-21) 5080 5932.
E-MAIL: shtcm2010@yahoo.com
WEB: <http://www.s-tcm.com/english.html>

October 15-17, 2010

TRADITIONAL MEDICINE EXPO 2010

Venue: Hall 402-403, Suntec City International Convention and Exhibition Centre, Singapore
Organizer: Singapore TCM Organisations Committee (STOC)
Supporters: IE Singapore, SPRING Singapore, Ministry of Health, Singapore Exhibition & Convention Bureau, Singapore Chinese Drug Importers & Exporters Guild, The Medicine Manufacturing Association of Singapore, Singapore Chinese Medical Union, The Singapore Chinese Druggist Association, ASEAN Alliance of Traditional Medicine Industries, The Hong Kong Medicine Dealers' Guild, China Chamber of Commerce for Import & Export of Medicines & Health Products, Singapore Chinese Medicines and Health Products Merchant Association, TCM College (S) Pte Ltd, Singapore Chinese Chamber of Commerce & Industry, The Singapore Traditional Chinese Medicine Organizations Coordinating Committee, Embassy of the People's Republic of China in Singapore Economic Commercial, Singapore-China Business Association.
Contact: Singapore TCM Organisations Committee
TEL: (65) 6227 9969
FAX: (65) 6224 1995
EMAIL: tcmcollege@yahoo.com.sg
WEB: <http://www.tmxpo.com>

Exhibitor profile: Suppliers of traditional herbal medicinal products, raw herbs, herbal extracts, and health supplements from China, Hong Kong SAR, Indonesia, Japan, Malaysia and Singapore.

October 21-24, 2010

7th HERBAL ASIA

INTERNATIONAL HERBAL TRADE SHOW & TRADE PLATFORM FOR HERBAL INDUSTRY

Venue: Menara MATRADE Exhibition & Convention Centre, Kuala Lumpur, Malaysia
Organizer: Forest Research Institute Malaysia (FRIM), Gagasan Badan Ekonomi Melayu (GABEM), Kuala Lumpur Malay Chambers of Commerce, Gitex M Sdn. Bhd., Federal Agricultural Marketing Authority (FAMA) and Majlis Amanah Rakyat.
Endorsed by: Malaysia External Trade development Corporation (MATRADE)
Supported by: Yayasan Dakwah Islamiah Malaysia, Ministry Information, Ministry of Natural Resources & Environment, Ministry of Health, Ministry of Agriculture & Agro-based Industry and Ministry of Tourism.
Contact: Secretariat Herbal Asia, 514, Jalan Symington off Jalan Jelutong, Forest Research Institute Malaysia, 52109 Kepong Selangor
TEL: 603 6280 3506
FAX: 603 6280 3607
E-MAIL: event@mygitex.com
WEB: <http://www.herbalasia.com.my>

Concurrent Events: Herbal Asia Career Fair / Bridging Career Opportunity in Herbal & Biotech Industry Packaging & Health Ingredients / Asia Herbal Packaging & Health Ingredients Expo.

Exhibitor profile: Growers and suppliers of botanical raw materials, medicinal plants, spices, coffee, tea leaf, essences, botanical extracts, marine extracts, natural flavors, natural edible pigments, organic health ingredients, bee products, suppliers of Ayurvedic medicines, naturopathic medicines, homoeopathic medicines, medicinal herbal teas, aromatherapy products, and more.

October 27-30, 2010

**HERBAL AND HEALTH FOOD INDONESIA 2010
CO-LOCATED WITH INTERFOOD INDONESIA 2010**

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/herbal/index_herbal.php

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.

November 2-4, 2010

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: incosasiateam@reedexpo.co.uk

WEB: <http://www.in-cosmeticsasia.com>

There will be exhibitors of natural botanical ingredients that are used in cosmetic products including, among other natural botanical ingredient suppliers:

- Aldivia S.A.S. (France) <http://www.aldivia.com>
- Bioland (South Korea) <http://www.biolandkorea.com>
- Biolandes (France) <http://www.biolandes.com>
- Crodarom (France) <http://www.croda.com>
- Henry Lemotte (Germany) <http://www.lamotte-oils.de>
- Ichimaru Pharcos Co. Ltd. (Japan) <http://www.ichimaru.co.jp>
- ID Bio (France) <http://www.idbio.eu>
- Indo World Trading Corp (India) <http://www.indo-world.com>
- Laboratoire Soniam (France) <http://www.soniam.fr>
- Provital Group (Spain) <http://www.provitalgroup.com>
- Thai-China Flavours and Fragrances Ind (Thailand) <http://www.tcff-thailand.com>

November 2-4, 2010

BIO MALAYSIA 2010

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 7-9, 2010

HERBAL WORLD 2010: INTERNATIONAL CONFERENCE AND EXHIBITION ON MEDICINAL PLANTS, HERBAL PRODUCTS AND NATURAL HEALTH

Venue: Matrade Exhibition & Convention Centre (MECC), Menara MATRADE, Jalan Khidmat Usaha, Off Jalan Duta 50480 Kuala Lumpur, Malaysia

Organizers: Cynrix Innovations Sdn. Bhd and Malaysian Herbal Corporation (MHC). Co-organized by Halal Industry Development Corporation (HDC), Herbal Medicine Research Centre (HMRC), Forest Research Institute of Malaysia (FRIM), Ministry of Science, Technology and Innovation, Malaysia (MOSTI), Johor Biotechnology & Biodiversity Corporation (J-BioTech).

Contact: Cynrix Innovations Sdn. Bhd. Tower B, 15-3, Wisma Pantai, Plaza Pantai 59200 Kuala Lumpur, Malaysia
TEL: +603-2282 7542
FAX: +603-2282 9152

EMAIL: info@herbalworldexpo.com

WEB: <http://www.herbalworldexpo.com>

Objectives: To provide a distinctive platform for trade promotion, marketing, and sourcing of herbal products and natural health education. To promote commercial farming of medicinal, aromatic and spice plants. To establish a Global Herbal Hub and create a platform for scientists, activists, and natural health professionals that utilize medicinal, aromatic, spice plants and herbal products.

Exhibitors Profile: Producers and suppliers of medicinal and aromatic plants & extracts (aromas & fragrances, essential oils, gums & resins, herbs, natural colors, oleoresins, spices), finished traditional herbal medicinal products and other natural health products (Ayurvedic, Siddha, and Unani medicines; homoeopathic medicines; cosmetics; nutraceutical products), medicinal plant farmers, nurseries, seed dealers, forest corporations, physicians & natural health professionals.

November 26 – December 5, 2010

MAHA INTERNATIONAL 2010

Venue: Malaysia Agro Exposition Park Serdang (MAEPS), Serdang, Malaysia

Host: Ministry of Agriculture and Agrobased Industries

Organizer: The Federation Agriculture Marketing Authority (FAMA)

Contact: MAHA Secretariat, Lot 3.03, 3rd floor, Bangunan KWSP Changkat Raja Chulan, Off Jalan Raja Chulan, 50200 Kuala Lumpur, Malaysia
TEL: (603) 2035 5777
FAX: (603) 2035 5797.

WEB: <http://www.mahaexpo2010.com>

Exhibitor Profile: Products including agriculture, plant materials, forestry products, root-based products, palm-based products, herbs and spices, nutritional food supplements, pharmaceutical products from medicinal plants and more.

May 26-28, 2011

BIO-FACH CHINA 2011, WORLD TRADE FAIR FOR ORGANIC FOOD AND NATURAL PRODUCTS

Venue: INTEX Shanghai, China

Patron: International Federation of Organic Agriculture Movements (IFOAM)

Contact: Nurnberg Global Affairs GmbH, Messezentrum 90471 Nurnberg Germany, 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, 2011 (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>

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

September 7-9, 2011

VITAFOODS ASIA, THE GLOBAL NUTRACEUTICAL EVENT

Venue: AsiaWorld-Expo, Hong Kong

Organizers: IIR Exhibitions (www.informa.com)

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

EMAIL: clee@iirx.co.uk

WEB: <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.

2011 (dates to be determined)

5th INTERNATIONAL SEABUCKTHORN ASSOCIATION CONFERENCE (ISA 2011)

Venue: Tsinghua, Qinghai Province, PRC

Organizers: International Seabuckthorn Association (ISA)

Sponsors: Chamber of Commerce, Qinghai Province

WEB: <http://www.isahome.net>

EUROPE

TAKING A CLOSER LOOK AT THE NETTLE LEAF TRADE FROM EUROPEAN COUNTRIES

European countries are the world's largest consumers, producers and exporters of the herbal drug **nettle leaf**, which has been wild-collected for use in the traditional medicine systems of European countries since ancient times. Nettle leaf preparations are used today for the treatment of mild arthritic pain. Nettle leaf is used similarly in important export markets including Australia, Canada and the United States. There is also some production in North America.

Botanical names: *Urtica dioica* L. and *Urtica urens* L. (Family: Urticaceae)

Common names:

English names:	Nettle leaf; Stinging nettle leaf
French name:	Feuille d'ortie
German name:	Brennesselblatt
Spanish name:	Hoja de ortiga

Pharmacopoeial name: Urticae folium PhEur

Definition

Nettle leaf consists of the whole or cut dried leaves of *Urtica dioica* L., *Urtica urens* L., or a mixture of the 2 species. It contains minimum 0.3 per cent for the sum of caffeoylmalic acid and chlorogenic acid, expressed as chlorogenic acid (dried drug).²⁸

Harmonized System Tariff Codes (HS Codes)

Nettle leaf	HS 1211.90 (Source: World Customs Organization)
Nettle leaf extract	HS 1302.19 (Source: World Customs Organization)

Native Habitat

Occurs wild throughout central and eastern Europe and western- to central- Asia.

Main Producing Areas

The main producing countries are central- and eastern- European countries, especially Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Hungary, Kosovo, Macedonia, Montenegro, Poland, Russian Federation, and Serbia. Collection occurs predominantly from wild populations. In recent years, however, supply from cultivation has been increasing (e.g. especially in Germany and Poland).

Medicinal Uses of Nettle Leaf:

- **European Community:** Nettle leaf is regulated as an active ingredient of registered Traditional Herbal Medicinal Products (THMPs) for oral use (prepared as an herbal tea, dry extract or fluidextract) for (a) relief of minor articular pain; and (b) to increase the amount of urine to achieve flushing of the urinary tract as an adjuvant in minor urinary complaints.²⁹ The nettle leaf material must comply with the quality standards of the European Pharmacopoeia (PhEur) monograph.
- **North America (Canada):** Nettle leaf is regulated as an active ingredient of licensed Natural Health Products (NHPs) for oral use (prepared as an herbal tea, fluidextract or tincture) as (a) supportive therapy to help relieve rheumatic complaints; (b) a diuretic; (c) a nutritive tonic; and to (d) help relieve seasonal allergy symptoms.³⁰

²⁸ European Pharmacopoeial Commission. Urticae folium. In: *European Pharmacopoeia*, 7th edition (PhEur 7.0). Strasbourg, France: European Directorate for the Quality of Medicines (EDQM). 2010;1196-1197.

²⁹ European Medicines Agency (EMA) Committee on Herbal Medicinal Products (HMPC). Draft Community Herbal Monograph on *Urtica dioica* L., *Urtica urens* L., Folium. London, UK: European Medicines Agency. 08 May 2008: http://www.ema.europa.eu/docs/en_GB/document_library/Herbal_-_Community_herbal_monograph/2009/12/WC500018010.pdf

³⁰ Health Canada Natural Health Products Directorate (NHPD). Monograph: Stinging Nettle. Ottawa, Ontario: NHPD. 30 January 2008: <http://webprod.hc-sc.gc.ca/nhp/nd-bdipsn/monoReg.do?id=166&lang=eng>

Quality Standards

Before exporting, it is useful to understand the quality standards in the destination market. There is an official quality standards monograph for nettle leaf published in the European Pharmacopoeia (PhEur). The PhEur quality standard is in legal force for the test and release of nettle leaf active ingredients of finished products throughout the European Union. The PhEur monograph for nettle leaf is also recognized as an official quality standard outside of the European Union in several countries including Australia, Canada, and Switzerland among others.

Production Scenario

The material of commerce is for the most part wild collected with cultivation increasing in some European countries, namely Germany and Poland, as well as in the Pacific Northwest of North America. Information on good wildcrafting practices (GWP) and/or good agricultural practices (GAP) for **nettle leaf** including harvest and post-harvest and handling practices is available from the following sources:

Howe A et al. *Urtica dioica* (Stinging Nettle). In: *Development of Good Wildcrafting Practices and Wildcrafter Certification for Medicinal Plants. Phase One: Development of Draft Guidelines for Good Wildcrafting Practices*. Victoria, BC: The Centre for Non-Timber Resources, Royal Roads University. July 2006; pages 74-83. Available to download at: <http://cle.royalroads.ca/files-cntr/Good%20Wildcrafting%20Practices.pdf>

Lonner J, Thomas M. Hithra (Nettle). In: *A Harvester's Handbook to Wild Medicinal Plant Collection in Kosovo*. USAID Agribusiness Development Sector – Circular 007. August 2003; page 11. Available to download at: http://www.gowildconsulting.com/pdfs/harvesters_handbook.pdf

Swiss Import Promotion Organization (SIPPO). *Urtica dioica*. In: *Plant Monographs for Medicinal and Aromatic Plants from Bosnia Herzegovina*. Zurich, Switzerland: SIPPO. 2002; pages 86-87. Available to download at: http://www.sippo.ch/internet/osec/en/home/import/publications/food.-ContentSlot-5180-ItemList-53963-File.File.pdf/pub_food_monobh.pdf

Swiss Import Promotion Organization (SIPPO). *Urtica dioica*. In: *Medicinal and Aromatic Plants from Macedonia: Manual and Monographs for Collectors according to the Principles of Organic Production from Bosnia Herzegovina*. Zurich, Switzerland: SIPPO. 2004; pages 148-150. Available to download at: http://www.sippo.ch/internet/osec/en/home/import/publications/food.-ContentSlot-5180-ItemList-23399-File.File.pdf/pub_food_monomk.pdf

Upton R et al. *Stinging Nettle Herb: Urtica dioica L. Urtica urens L. American Herbal Pharmacopoeia® and Therapeutic Compendium*. Scotts Valley, CA: American Herbal Pharmacopoeia. 2009. PDF copy available for USD \$39.95: <http://www.herbal-ahp.org>

Selected European Distributors and Exporters of Nettle Leaf:

- Alfred Galke GmbH <http://www.galke.com>
- Amorós Nature, S.L. <http://www.amorosnature.com>
- Atriplex Rohstoffagentur Ltd. <http://www.atriplex.net>
- Carlo Sessa S.p.A. <http://www.carlo sessa.it/company.asp>
- Cornehl's & Bosse <http://www.cobo.de>
- Dixa AG <http://www.dixa.ch>
- Heinrich Klenk GmbH & Co. KG <http://www.klenk-herblin.de>
- Jenaer Pflanzenrohstoffe <http://www.jenaer-pflanzenrohstoffe.com>
- Jürgen Serr Herb Service <http://www.herb-service.com>
- l'Herbier du Diois <http://www.herbier-du-diois.com>
- Herbes del Moli <http://www.herbesdelmoli.com>
- Kräuter Mix <http://www.kraeuter-mix.de>
- Kündig Gruppe <http://www.kuendig.com>
- Martin Bauer Group <http://www.martin-bauer-group.com/en>
- Müggenburg Pflanzliche Rohstoffe <http://www.paulmueggenburg.de>
- Organic Partners <http://organicpartners.com>

- Worlée Naturprodukte <http://www.worlee.de>

Selected European Producers and Exporters of Extracts of Nettle Leaf:

- Atriplex Rohstoffagentur Ltd. <http://www.atriplex.net>
- Bio Serae Laboratories <http://www.bioserae.com>
- Blue Sky Botanicals <http://www.blueskybotanicals.com>
- Burgundy Botanical Extracts <http://www.burgundy-extracts.com>
- Dorana Naturae <http://www.dorananaturae.com>
- EPO S.r.l. <http://www.eposrl.com>
- Euromed S.A. <http://www.euromed.es>
- Finzelberg GmbH & Co. KG <http://www.martin-bauer-group.com/en>
- Laboratoire Soniam <http://www.soniam.fr>
- Möller Pharma GmbH & Co. KG <http://www.moeller-pharma.de>
- Naturex <http://www.naturex.com>
- Paninkret <http://www.paninkret.de>
- K.W. Pfannenschmidt GmbH <http://www.pfannenschmidt.de>
- Pharmanager Ingredients <http://www.pharmanager-ingredients.com>
- Phytoneering Extract Solutions <http://www.phytoneering-extract-solutions.de/pes>
- Plantex <http://www.plantex.fr>

Market Prices

Information on spot market prices is available from some of the wholesale distribution companies in the United States. **Table 1** provides spot market prices from three U.S. companies; Mountain Rose Herbs (Oregon), Pacific Botanicals (Oregon), and San Francisco Herb & Natural Food Co. (California) as well as spot market prices from Europe. Ton quantities or Full Container Load prices would of course be lower than these indicative prices.

Table 1: Nettle Leaf 2010 Spot Market Prices (USD per lb) / Selected Distributors

Nettle leaf Wholesale distributors	Processed form	1-4 lb	5-9 lbs	10-24 lbs	25-49 lbs	50-99 lbs	>100 lbs
Mountain Rose Herbs							
- Certified organic (Hungary)	Cut and sifted	\$8.50	\$7.65	\$7.23	\$6.80	\$5.95	\$5.10
Pacific Botanicals							
- Certified organic (USA)	Cut and sifted	\$12.60	\$11.30	\$11.30	\$10.30	\$10.30	\$9.30
San Francisco Herb & Natural Food Co.							
- Conventional (Albania)	Cut and sifted	\$7.10	\$6.74	\$6.39	\$6.03	Inquire	Inquire
- Certified organic (Bulgaria)	Whole leaf	\$8.50	\$8.08	\$7.65	\$7.23	Inquire	inquire
European Spot Market							
- Conventional (Eastern Europe)	Whole leaf						\$9.17 lb (=\$4.16/kg)

Note: In the U.S. many distributors sell in pound (lb) quantities rather than metric kilogram (kg) quantities. 1 kg = 2.2046 lb.

SOURCES:

- Mountain Rose Herbs Wholesale: <http://www.mountainroseherbs.com/wholesale.html>
 Pacific Botanicals Online Store: <http://www.pacificbotanicals.com/store>
 San Francisco Herb & Natural Food Co. Wholesale Catalog 2010: <http://www.herbpicetea.com/SFPromo.PDF>

Volume of European Nettle Leaf Production and Exports

Because nettle leaf does not have a specific HS Code assigned, it is not possible to track exports. From various studies and surveys, estimates of production, consumption and export are available for certain European countries.

Albania: An estimated 280 tons (dry weight) of nettle are wild harvested annually in Albania.³¹

³¹ Kathe W, Honnef S, Heym A. *Medicinal and Aromatic Plants in Albania, Bosnia-Herzegovina, Bulgaria, Croatia and Romania*. Bonn, Germany: Bundesamt für Naturschutz (BfN). 2003. Available at: <http://www.bfn.de/fileadmin/MDB/documents/skript91.pdf>

Bulgaria: An estimated 450 tons of nettle are wild harvested annually in Bulgaria. About 70% is used in Bulgaria and about 30% exported.

Croatia: The annual quota set in 2001 was 11.5 tons. About 25% is used in the local market, 25% in the national market, and about 50% exported.

Hungary: Nettle is one of the most important wild collected plants in Hungary with an estimated annual harvest of 250 and 350 tons. Annual exports of nettle leaf from Hungary are estimated at between 50 to 100 tons.³²

Poland: An annual average of between 100 and 200 tons nettle leaf raw materials are purchased in Poland.³³

Organic: In 2005, an estimated 148 tons of wild harvested nettle leaf was certified organic.³⁴

BOTANICAL PRODUCT SPECIFICATIONS
NETTLE LEAF
A product of the Eastern European Countries

PRODUCT	Nettle leaf ³⁵
Botanical name	<i>Urtica dioica</i> L., <i>Urtica urens</i> L., or a mixture of the 2 species (Fam. Urticaceae)
Pharmacopoeial name	Urticae folium
Part used	Whole or cut dried leaves
Cultivated or wild	Mainly wild collected; some cultivation
Storage	Store protected from moisture.
IDENTIFICATION	
Macroscopic	PhEur ID Test A
Microscopic	PhEur ID Test B
Thin-layer chromatography	PhEur ID Test C (2.2.27)
TESTS	
Foreign matter	Maximum 5.0% of stems and maximum 5.0% of other foreign matter (including inflorescences) (PhEur 2.8.2)
Loss on drying	Maximum 12.0% (PhEur 2.2.32)
Total ash	Maximum 20.0.% (PhEur 2.4.16)
Ash insoluble in hydrochloric acid	Maximum 4.0% (PhEur 2.8.1)
Content	Minimum 0.3% for the sum of caffeoylmalic acid and chlorogenic acid, expressed as chlorogenic acid (dried drug)
CONTAMINATION	
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
THERAPEUTIC USE	For relief of minor articular pain; and to increase the amount of urine to achieve flushing of the urinary tract as an adjuvant in minor urinary complaints. ³⁶

³² Non-food Group, Department of Agricultural Chemical Technology, Budapest University of Technology and Economics. *Interactive European Network for Industrial Crops and their Applications (IENICA). Report from the Republic of Hungary.* 2004. Available at: <http://www.ienica.net/reports/Hungary.pdf>

³³ *Interactive European Network for Industrial Crops and their Applications (IENICA).* Statistics for Poland. Available at: http://www.ienica.net/reports/annex_m.pdf

³⁴ International Trade Centre (ITC). *Overview of World Production and Marketing of Organic Wild Collected Products.* Geneva, Switzerland: International Trade Centre UNCTAD / WTO. 2007. Available at: http://www.intracen.org/Organics/documents/Overview_World_Production_Marketing_Organic_Wild_Collected_Products.pdf

³⁵ European Pharmacopoeia Commission. *Urticae folium.* In: *European Pharmacopoeia*, 7th edition (PhEur 7.0). Strasbourg, France: European Directorate for the Quality of Medicines (EDQM). 2010;1196-1197.

BOTANICAL EXTRACTS (Indicative bulk prices)

Product	Standard	Price (USD / kg)	Basis
Andrographis herb dry extract (<i>Andrographis paniculata</i>)	10% andrographolides	55-65	FOB USA
Devil's claw root dry extract (<i>Harpagophytum procumbens</i>)	5% harpagoside (UV)	55-60	FOB USA
Ginkgo leaf dry extract PhEur-grade (<i>Ginkgo biloba</i>)	min 24% ginkgoflavoneglycosides; 2.6-3.2% bilobalide; 2.8-3.4% ginkgolides A,B & C	175-275	FOB USA
Maritime Pine dry extract USP-grade (<i>Pinus pinaster</i>)	65% procyanidins	1000-3500	FOB USA
Milk thistle fruit dry extract (<i>Silybum marianum</i>)	min. 80% silymarin calculated as silybin	150-160	FOB USA
Nettle root dry extract (<i>Urtica dioica</i>)	min 30 ppm scopoletin min 0.8% β -sitosterol	44-85	FOB USA
St. John's wort herb dry extract (<i>Hypericum perforatum</i>)	min. 0.3% hypericins expressed as hypericin 1.0-4.0% Hyperforin	30-55	FOB USA
Valerian root dry extract (<i>Valeriana officinalis</i>)	min. 0.8% valerenic acids	60-75	FOB USA

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 Pharmacopoeia – National Formulary (USP-NF).

MEETINGS AND TRADE SHOWS EUROPEAN COUNTRIES

October 5-7, 2010 CPhI WORLDWIDE

Venue: Paris Nord Villepinte, B.P. 68004, 95970 Roissy Charles-de-Gaulle Cedex, France
 Organizer: UBM Information Ltd
 Contact: TEL: +31 1 4863 313
 FAX: +31 4863 3338
 E-Mail: exposants.pnv@viparis.com
 WEB: <http://www.cphi.com>

CPhI Exhibitors of medicinal plants & extracts include, among others:

- Alchem International Ltd. <http://www.alcheminternational.com>
- 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>
- K. Patel Phyto Extractions Pvt. Ltd. <http://www.phytoextractskp.com>
- Linnea SA <http://www.linnea-worldwide.com>
- Naturex <http://www.naturex.com>

October 8-12, 2011 ANUGA

Venue: Cologne Exhibition Center, Germany
 Organizer: Koelnmesse GmbH, Messeplatz 1, 50679 Köln, Germany & Bundersvernab 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@einzelhandel.de
 WEB: <http://www.anuga.com>

³⁶ European Medicines Agency (EMA) Committee on Herbal Medicinal Products (HMPC). Draft Community Herbal Monograph on *Urtica dioica* L., *Urtica urens* L., Folium. London, UK: European Medicines Agency. 08 May 2008: http://www.ema.europa.eu/docs/en_GB/document_library/Herbal_-_Community_herbal_monograph/2009/12/WC500018010.pdf

Although mainly a food product and ingredient show, there will be exhibitors of bulk botanical raw materials and extracts including the following:

Company	Country	Website
Adamexpo	Sri Lanka	http://www.adamexpo.net
Afrilex	South Africa	http://www.afrilex.co.za
Agrim Industries Ltd.	Indonesia	http://www.agrimltd.com
Alba Gewürze GmbH + Co. KG	Germany	http://www.alba-gewuerze.de/#
Aryan International	India	http://www.aryanint.com
Bangkok Chili Ltd.	Thailand	http://www.bangkokchili.com
Eoas Organics Pvt Ltd.	Sri Lanka	http://www.eoasorganics.com
Grover Sons	India	http://www.groversons.com
Konsa Konsantre Sanayii A.S	Turkey	http://www.konsa.com
Shri Chakra Udyog PVT. Ltd	India	http://www.shrichakra.net
Spices Board India	India	http://www.indianspices.com
Spice Mountain	United Kingdom	http://www.spicemountain.co.uk
Tuchel & Sohn GmbH	Germany	http://www.tuchel-sohn.de
Ulrich Walter GmbH	Germany	http://www.lebensbaum.de
Vallabhdas Kanji Ltd.	India	http://www.vklspices.com
Zhejiang Medicines & Health Products	China	http://www.zhejiang-pharma.com

November 16-18, 2010

HEALTH INGREDIENTS EUROPE & NATURAL INGREDIENTS 2010

Venue: Madrid, Spain
 Organizer: CMP Information, a division of United Business Media
 Contact: CMP Information, PO Box 200, 3600 AE Maarsse, The Netherlands
 TEL: + 31 346 559 444
 FAX: + 31 346 573 811
 E-MAIL: Fi@cmpi.biz
 WEB: <http://www.hi-events.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.

February 1-2, 2011

AESGP CONFERENCE: THE LEGAL AND REGULATION OF FOOD SUPPLEMENTS AND HERBAL (MEDICINAL) PRODUCTS

Venue: The Renaissance Brussels Hotel (Marriott group), Rue du Parnasse 19 - B-1050, Brussels, Belgium
 Organizer: Association of the European Self-Medication Industry (AESGP), 7 Avenue de Tervuren, B-1040 Brussels, Belgium
 WEB: <http://www.aesgp.be/meetings/upcoming.asp>

February 16-19, 2011

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.

February 22-23, 2011

**21. BERNBURGER WINTERSEMINAR FUER ARZNEI- UND GEWUERZPFLANZEN
[21st Annual Bernburg Winter Seminar for Medicinal and Aromatic Plants]**

Venue: Landesanstalt für Landwirtschaft, Forsten und Gartenbau Sachsen-Anhalt bzw. Mensa der Fachhochschule Anhalt, Bernburg-Strenzfeld, Sachsen-Anhalt
Organizers: Deutscher Fachausschuss für Arznei-, Gewürz- und Aromapflanzen, Ministerium für Landwirtschaft und Umwelt Sachsen-Anhalt, Landesanstalt für Landwirtschaft, Forsten und Gartenbau Sachsen-Anhalt, SALUPLANTA e.V.
Contact: SALUPLANTA e.V, Prof.-Oberdorf-Siedlung 16, D-06406 Bernburg
FAX: 03471-640 332
TEL: 03471-35 28 33
E-MAIL: saluplanta@t-online.de
WEB: <http://www.saluplanta.de>

The scientific programme will encompass all areas of medicinal and aromatic plant production with main themes including plant breeding, cultivation techniques, mechanization and post-harvest technologies, regulations, quality assurance and applications.

April 13-15, 2011

CIPAM 2011: THE INTERNATIONAL CONGRESS ON AROMATIC AND MEDICINAL PLANTS

Venue: Cagliari, Italy
Sponsors: Università degli Studi Cagliari, Istituto Tecnico Industriale Statale "M, Giua" Cagliari, Regione Autonoma della Sardegna, Provincia di Cagliari, Comune di Cagliari, Fondazione Banco di Sardegna, International Council for Medicinal and Aromatic Plants.
Contact: CIPAM 2011 Organizing Committee: Prof. Silvia Porcedda, Università degli Studi di Cagliari Dipartimento di Scienze Chimiche, Cittadella Universitaria – S.P. Monserrato-Sestu km 0,700 09042, Monserrato (CA) Italy
TEL: +39 070 6754415
FAX: +39 070 6754388.
E-MAIL: cipam2011@dsc.unica.it
WEB: <http://cipam2011.dsc.unica.it>

Focus: CIPAM 2011 is a scientific meeting aimed to the research and valorization of medicinal and aromatic plants (MAPs).

The event is addressed to researchers, industrials, producers and herbalists with the objectives to:

- To offer an international platform for exchange and diffusion of recent scientific work on MAPs
- To provide opportunities for participants to share their experiences and develop contacts and partnerships to set up common strategies in relation to MAPs
- To encourage the cultivation, production, processing and conservation of MAPs

Topics:

- Biodiversity, Ethnobotany, cultivation and conservation of MAPs
- Biological activity and toxicity of MAPs
- Biotechnology as a tool for the production of secondary metabolic
- Phytochemistry
- Chemistry and quality control of MAPs and products made from them
- Techniques of extraction and development of MAPs
- Socio-economic medicinal and environmental importance of MAPs on regional, national and international scale.

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, Miramarska 109, 10000 Zagreb, Croatia NA 385

TEL: +385 1 4660095

FAX: +385 1 4660095

E-mail: immc6.loc@gmail.com

WEB: <http://www.immc6.com>

October, 2011 (dates to be determined)

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/en/about/welcome.html>

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.

November 29 – December 1, 2011

FOOD INGREDIENTS EUROPE & NATURAL INGREDIENTS

Venue: Paris Nord Villepointe, 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>

INDIA and other Asian Countries

TAKING A CLOSER LOOK AT THE GALANGAL RHIZOME TRADE FROM INDIA

The Republic of India is among world's leading consumers, producers and exporters of galangal rhizome, with average annual export trade volume of nearly 600,000 kg and estimated annual domestic consumption is over 300,000 kg.

The galangal trade volume in India includes "greater galangal rhizome" (*Alpinia galanga*; Fam. Zingiberaceae), which is wild collected but also cultivated in India and is widely used in the Ayurvedic, Siddha and Unani systems of medicine, as well as in folk medicine. Additionally, "chittaratha rhizome" (*Alpinia calcarata*), which is cultivated in India and used in the Ayurvedic system of medicine (Note: According to the Unani Pharmacopoeia of India (UPI), *Alpinia calcarata* is a synonym of *Alpinia galanga*); "kaempferia galanga rhizome" (*Kaempferia galanga*), cultivated in India and used in the Ayurvedic and Siddha systems of medicine; and the non-native "lesser galangal rhizome" (*Alpinia officinarum*), an introduced species cultivated in India and now also used in the Indian Systems of Medicine.³⁷

This review will focus mainly on the trade of "greater galangal rhizome" but will include some relevant information on the other related galangals produced and used in India.

Harmonized System Tariff Codes (HS Codes)

1211.9042 (Indian Trade Classification)	Galangal rhizome and roots including greater galangal
1301.9058 (Indian Trade Classification)	Galangal oleoresin
3301.29 (World Customs Organization)	Galangal essential oil

Botanical names:	<i>Alpinia calcarata</i> (Haw.) Roscoe	Chittaratha
	<i>Alpinia galanga</i> (L.) Sw.	Greater galangal
	<i>Alpinia officinarum</i> Hance	Lesser galangal
	<i>Kaempferia galanga</i> L.	Kaempferia galanga

Common names:	<i>Alpinia calcarata</i>:	
	Sanskrit names:	Aratha; Chittaratha
	Traditional Chinese medicine name:	Ju hua shan jiang
	<i>Alpinia galanga</i>:	
	Arabic name:	Bekh-e-Khulanjan
	Ayurvedic medicine name:	Kulanjana
	English common name:	Greater galangal
	Malay medicine names:	Lengjuas, lengkuas benar
	Myanmar name:	Padegaw - gyi
	Sanskrit names:	Kulinjan, Rasnamool, Koshtakulinjan
	Siddha medicine name:	Perarattai
	Traditional Chinese medicine name:	Hong dou kou
	Unani medicine name:	Khulanjan
	<i>Alpinia officinarum</i>:	
	English common name:	Lesser galangal
	Sanskrit name:	Khulinjan
	Traditional Chinese medicine name:	Gao liang jiang
	<i>Kaempferia galanga</i>:	
	English common name:	Kaempferia galanga
	Malay medicine names:	Cekur, kencur, chengkur
	Myanmar names:	Kun - sa – gamon
	Sanskrit names:	Kachora, Narkachur, Kapoor Kachri
	Traditional Chinese medicine name:	Shan nai

³⁷ Ved DK, Goraya GS. *Demand and Supply of Medicinal Plants in India*. Dehra Dun, India: Bishen Singh Mahendra Pal Singh. 2008.

Pharmacopoeial names: Alpiniae rhizoma; Galangae rhizoma; Kaempferiae rhizoma.

Definition (greater galangal)

Greater galangal consists of dried rhizomes of *Alpinia galanga* (L.) Sw., syn. *Alpinia calcarata* Roscoe (Zingiberaceae), which is found growing wild in the eastern Himalayas and southwest India.³⁸

Native Habitat

Greater galangal (*Alpinia galanga*) occurs naturally in shady and marshy lands in tropical areas of India, particularly in South India, and Northeast India.³⁹ It is also cultivated throughout India especially in East Bengal and South India.⁴⁰ Greater galangal also occurs in Indonesia, Malaysia, Myanmar, Taiwan, Thailand, and Vietnam, as well as in forests, scrub, and grasslands at altitudes between 100 and 1300 m in the Chinese Provinces of Fujian, Guangdong, Guangxi, Hainan, and Yunnan.⁴¹

Varieties of greater galangal:

- *Alpinia galanga* var. *galanga* is cultivated throughout southeastern Asia [India, Indonesia, Malaysia, Myanmar, Taiwan, Thailand, and Vietnam.
- *Alpinia galanga* var. *pyramidata* occurs in Indonesia (Java) as well as in forests, scrub, and grasslands at altitudes between 100 and 1300 m in Chinese Provinces of Guangdong, Guangxi, and Yunnan.

Lesser galangal (*Alpinia officinarum*) grows in Chinese Provinces of Guangdong, Guangxi, and Hainan.

Kaempferia galanga (*Kaempferia galanga*) occurs in open areas of Guangdong, Guangxi, Taiwan, and Yunnan and is widely cultivated in southeastern Asia including India.

Varieties of Kaempferia galanga:

- *Kaempferia galanga* var. *galanga* is native to India, is widely cultivated in southeastern Asia, and grows in open areas of Guangdong, Guangxi, Taiwan, and Yunnan.
- *Kaempferia galanga* var. *latifolia* occurs in southern Yunnan and possibly in Cambodia.

Main Producing Areas

The main producers of greater galangal rhizome include India, Indonesia (Java), Malaysia, Thailand, and the Philippines.

Therapeutic Uses (greater galangal)

- **Ayurvedic system of medicine:** Depending on what it is combined with, for treatment of *Sopha* (edema), *Svasa* (asthma), *Hikka* (hiccup), *Pratisyaya* (coryza), *Vatavyadhi* (diseases due to Vata Dosa / Neurological disease), *Udara-roga* (diseases of the abdomen), *Kampa* (tremor), *Vismajvara* (chronic intermittent fever), *Kaphaja kasa* (cough due to Kapha dosa), *Asti* (bones), *Mahakustha* (group of major skin diseases), *Vataja Sula* (pain due to Vata dosa).⁴²

³⁸ Unani Pharmacopoeia Committee. Khulanjan (Rhizome). In: *The Unani Pharmacopoeia of India*, Part I, Volume II. New Delhi, India: Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India. 2007;67-68.

³⁹ National Medicinals Plants Board (NMPB), Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India. *Alpinia galanga* Willd. In: *Agro-techniques of selected medicinal plants*, Volume 1. New Delhi, India: The Energy and Resources Institute (TERI) Press. 2008;17-19.

⁴⁰ Unani Pharmacopoeia Committee. Khulanjan (Rhizome). In: *The Unani Pharmacopoeia of India*, Part I, Volume II. New Delhi, India: Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India. 2007;67-68.

⁴¹ Delin Wu, Kai Larsen. Zingiberaceae. In: *Flora of China*. 2005; 24:322-377. Available at: http://flora.huh.harvard.edu/china/mss/volume24/ZINGIBERACEAE_published.pdf

⁴² Ayurveda Pharmacopoeia Committee. Kulanjana (Rhizome). In: *The Ayurvedic Pharmacopoeia of India*, Part-I, Volume-I, First Edition. New Delhi, India: Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India. 2001;107-109..

- Myanmar system of medicine: For treatment of indigestion, flatulence, dyspepsia, colic, nausea, vomiting, diarrhea, cough, haemoptysis, fever, allergic reaction, amenorrhea, laxation and as blood purifying agent.⁴³
- Siddha system of medicine: Depending on what it is combined with, for treatment of *Cutakavali* (dysmenorrhea), *Iyacuram* (fever due to *kapam*), *Muppini* (diseases caused by derangement of the three humours), *Nancu* (poison / toxin), *Nirerram* (sinusitis), *Talaippun* (scalp ulcer), *Utal vali* (body ache), and *Vali noy* (convulsions / seizure / fits).⁴⁴
- Unani system of medicine: Depending on what it is combined with, for treatment of: *Waj-ul-Mafasil* (rheumatism; pain in the joints), *Zof-e-bah* (sexual debility), *Zeek-un-Nafas* (asthma), *Bakhr-ul-Fam* (bad breath), *Bohat-us-Saut* (hoarseness), and *Nafkh-e-Shikam* (flatulence)⁴⁵

Quality Standards

There are official pharmacopoeial monographs published in the Ayurvedic Pharmacopoeia of India (API), Siddha Pharmacopoeia of India (SPI), and Unani Pharmacopoeia of India (UPI). **Table 1** compares the pharmacopoeial quality standards for Greater Galangal Rhizome, which can be used as the basis of quality specifications for test and release of galangal as an active ingredient.

Table 1: Comparison of Greater Galangal Rhizome Pharmacopoeial Quality Standards

Standard	API V 2006	SPI I 2008	UPI II 2007
Identification tests:	Macroscopic	Macroscopic	Macroscopic
	Microscopic	Microscopic	Microscopic
	Organoleptic	Organoleptic	Organoleptic
	Thin-layer chromatography	Thin-layer chromatography	Thin-layer chromatography
	Fluorescence test for distinction from lesser galangal	—	—
Foreign matter	NMT 2.0%	NMT 2.0%	NMT 2.0%
Total ash	NMT 5.0%	NMT 5.0%	NMT 6.0%
Acid-insoluble ash	NMT 2.0%	NMT 2.0%	NMT 3.0%
Alcohol-soluble extractive	NLT 6.0%	NLT 6.0%	NLT 1.0%
Water-soluble extractive	NLT 13.0%	NLT 13.0%	NLT 11.0%
Starch	NLT 22.0%	NLT 22.0%	No standard
Essential oil	NLT 0.4%	NLT 0.4%	No standard

LEGEND

API V (2006): Ayurvedic Pharmacopoeia of India
 SPI I (2008) : Siddha Pharmacopoeia of India
 UPI II (2007) : Unani Pharmacopoeia of India

Production Scenario

Of the estimated 960 medicinal plant species that form the source of 1,289 botanical raw drugs in trade in India, galangal rhizome and kaempferia galanga rhizome are both among the top 117 species whose annual domestic consumption exceeds 100 metric tons (MT). Domestic consumption of greater galangal rhizome is estimated at over 200 MT while domestic consumption of kaempferia galanga rhizome is estimated at about 109 MT.⁴⁶ The production data in **TABLE 2** is based on information provided in the book "*Agro-techniques of selected Medicinal Plants*"⁴⁷ which is published by the National Medicinal Plants Board (NMPB) of Department of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy), Government of India; available online at: <http://nmpb.nic.in/WriteReadData/links/3104530816Agro-techniques%20of%20selected%20medicinal%20plants%20Vol%20-%20I%20Part%20-%20I.pdf>

⁴³ Department of Traditional Medicine, Ministry of Health. *Alpinia galanga* (L.) Willd. In: *Medicinal Plants of Myanmar*. Government of Myanmar. Available at: <http://www.moh.gov.mm/file/mpm.pdf>

⁴⁴ Siddha Pharmacopoeia Committee. Perarattai (Rhizome). In: *The Siddha Pharmacopoeia of India*, Part I, Volume I, First Edition. New Delhi, India: Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India. 2008;134-136.

⁴⁵ Unani Pharmacopoeia Committee. Khulanjan (Rhizome). In: *The Unani Pharmacopoeia of India*, Part I, Volume II. New Delhi, India: Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India. 2007;67-68.

⁴⁶ Ved DK, Goraya GS. *Demand and Supply of Medicinal Plants in India*. Dehra Dun, India: Bishen Singh Mahendra Pal Singh. 2008.

⁴⁷ National Medicinal Plants Board (NMPB), Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India. *Alpinia galanga* Willd. In: *Agro-techniques of selected medicinal plants*, Volume 1. New Delhi, India: The Energy and Resources Institute (TERI) Press. 2008;17-19.

Additional information has been referenced from the book "Production Technology of Medicinal and Aromatic Crops" 4th Edition, by Farooqi et al (2004).⁴⁸

Table 2: Cultivation Practices of Greater Galangal Rhizome in India

SOIL AND CLIMATE	Greater galangal succeeds on sandy loam soils and in humid tropical climates. It can be grown in open sunny areas with sufficient rainfall. Can be grown at altitudes of up to 1000 m with sufficient rainfall. According to Farooqi et al., it prefers fertile red loams to forest soils but also comes up well in laterite soil. Very heavy soil with tendency to water logging should be avoided. Temperature range of 26°C to 34.5°C with rainfall of about 750-3000 cm are suitable.
PROPOGATION MATERIAL	Rhizome splits are used for commercial cultivation. Seed propagation is not feasible due to low germination rate.
LAND PREPARATION	Plough land to achieve a fine tilth. Apply 5 tons farmyard manure in the field at time of land preparation. Additionally, as basal dose before planting, 150 kg urea, 100 kg muriate of potash, and 600 kg of single super phosphate. If necessary, to counter acidic nature of soil, 2 tons lime may be also be applied in the field one month before planting. Well-decomposed humus or vermi-compost may be used as manure instead of farmyard manure.
NURSERY RAISING AND PLANTING	Rhizome slices are planted directly in the field. Nursery stock is generally not raised. Planting rhizome slices at 5.5 tons / ha with spacing of 30 cm x 30 cm for one-year crop and 3.5 tons / ha with spacing of 45 cm x 30 cm for two-year crop is recommended. No pretreatment is required before planting. February to mid-April is best time for raising the crop in northeastern hilly tracts. Elsewhere, planting at onset of monsoon (May-June) is possible. Whole or parts of rhizomes of about 50 g weight with 8-10 internodes are directly planted on hills in rows in the field.
INTERCROPPING	Greater galangal can be cultivated as an intercrop in coconut or rubber plantations.
THINNING AND WEEDING	Hoeing should be done twice, at 45 days and at 60 days after planting. Manual weeding should be done thrice, at 60, 90 and 120 days after planting. According to Farooqi et al., weeding should be following by top dressing, earthing-up and mulching. Thereafter no weeding would be required as the crop smothers the weeds.
MANURES, FERTILISERS AND PESTICIDES	Total nitrogen requirement is about 300 kg, half of which is applied through urea at time of planting. The rest of the nitrogen (urea) should be applied in two equal split doses (75 kg at time of first earthing-up and 75 kg at time of second earthing-up). Each urea application should be followed by watering. No significant pests and diseases have been observed except <i>Colletotrichum</i> spp. spots, which can be controlled by spraying 1% Bordeaux mixture at monthly intervals after the appearance of leaf spots.
IRRIGATION	The crop can be raised under rain-fed conditions on terraces in Meghalaya and other northeastern States and elsewhere in India. Irrigation is carried out only during long dry spells or in areas receiving low rainfall.
HARVESTING/POST HARVESTING OPERATION	According to NMPB, to optimize the essential oil content, the rhizomes should be harvested when the crop is 12 months old. At this stage, the leaves turn pale or start drying. The crop can be harvested after one or two years. For preserving germplasm, it can be kept as a perennial. According to Farooqi et al., the crop can be harvested after 18 months, but the optimum stage to harvest for highest oil yield is 36 to 42 months after planting. Post-harvest, the rhizomes should be cleaned, cut into 5 cm long pieces, dried in the shade or sun (3-5 days) until down to 10% moisture content. Then packed and stored in suitable containers in a dry and cool location.
YIELD	For a 12-month crop, the yield is 23 to 24 tons / ha fresh weight, which reduces to 5.65 tons / ha dry weight. For 24-month crop, yield of fresh rhizomes is over 82 tons / ha which results is 22.65 tons / ha post-drying.
ECONOMICS	Cost of cultivation for one-year crop is about Rs 75,811 / ha and about Rs 64,272 / ha for a two-year crop.
MARKET	Market price 40-50 Rs / kg. Market demand greater than 100 MT / year.

⁴⁸ Farooqi AA, Vasundhara M, Agarwal A. *Production Technology of Medicinal and Aromatic Crops*. Bangalore, India: Trust for Medicinal Plant Research & Development. 2004;48-50.

Indian Exporters of Galangal Rhizome

Selected Suppliers of Galangal Raw Material:

- AayurMed Biotech Pvt. Ltd . <http://www.aayurherb.com>
- Euroasia Transcontinental <http://www.euroasiachem.com>
- Geo-Fresh Organic <http://www.geo-fresh.com>
- Kancor Ingredients Ltd <http://www.kancor.in>
- Mother Herbs & Agro Products <http://www.motherherbs.com>
- Nature & Nurture Healthcare Pvt. Ltd. <http://www.herbsfromnature.com>
- Phalada Agro Research Foundations <http://www.phaladaagro.com>
- Pioneer Enterprise <http://www.pioneerherbal.com>
- Shri Dhanalakshmi Industries <http://www.evergreen-sdi.com/herbs.html>

Selected Suppliers of Extracts of Galangal

- AayurMed Biotech Pvt Ltd <http://www.aayurherb.com>
- Amsar Pvt. Ltd. <http://www.amsar.com>
- AYUSH Pharmaceuticals <http://www.ayushherbs.com>
- Jairamdas Khushiram <http://www.herbaltrade.com>
- Phyto Concentrates <http://www.phytoconcentrates.com>
- Pioneer Enterprise <http://www.pioneerherbal.com>
- Pukhraj Herbals <http://www.garlicoherb.com>

Market Prices

Market pricing for galangal rhizome is not tracked through the National Medicinal Plants Board (NMPB) "Weekly Online Pricing System of Medicinal Plants" nor is it tracked through the Spices Board India (SBI) "Domestic Weekly Price" postings. According to Ved and Goraya (2008), the average price range for greater galangal rhizome in Indian markets in 2008 was 40 to 50 Rs per kg and for kaempferia galanga rhizome 80 to 90 Rs per kg.⁴⁹ According to the NMPB, the average market price in the 2006-2007 agricultural year was 50 Rs per kg for greater galangal rhizome.⁵⁰

Volume of India's Galangal Exports (HS 1211.9042)

Table 3 shows that in the 2009-2010 agricultural season (01 April through 31 March), India exported 597,570 kg of galangal rhizome, 6.07% more than same period previous year. The main importers of Indian grown galangal were the:

- (1) United Arab Emirates
- (2) Socialist Republic of Vietnam
- (3) Islamic Republic of Iran
- (4) Kingdom of Saudi Arabia
- (5) Kingdom of the Netherlands

During same period (April 2009 through March 2010), India imported 242,200 kg of galangal rhizome from the People's Republic of China (PRC) and 11,500 kg from the Republic of Indonesia.

⁴⁹ Ved DK, Goraya GS. *Demand and Supply of Medicinal Plants in India*. Dehra Dun, India: Bishen Singh Mahendra Pal Singh. 2008.

⁵⁰ National Medicinal Plants Board (NMPB), Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India. *Alpinia galanga* Willd. In: *Agro-techniques of selected medicinal plants*, Volume 1. New Delhi, India: The Energy and Resources Institute (TERI) Press. 2008;17-19.

**Table 3: India Exports of Galangal Rhizome
Apr-Mar 2008-2009 / Apr-Mar 2009-2010; Quantity (kg); %Growth**

HS Code	Commodity	Quantity (kg)		%Growth
		2008-2009	2009-2010	
12119042	GALANGAL RHIZOMES & ROOTS INCLUDING GREATER GALANGAL RHIZOME	563,380	597,570	6.07

SOURCE: Government of India, Department of Commerce Export Import Data Bank

**BOTANICAL PRODUCT SPECIFICATIONS
Greater Galangal Rhizome
A product of India**

PRODUCT	KULANJANA (Rhizome) ⁵¹
Botanical name	<i>Alpinia galanga</i> Willd. (Fam. Zingiberaceae)
Pharmacopoeial name	Rhizoma Alpiniae galangae
Part used	Dried rhizome
Cultivated or wild	Cultivated and Wild Collected
Storage	Store in a dry place
IDENTIFICATION	
Macroscopic	As per API monograph macroscopical description
Microscopic	As per API monograph microscopical description
Organoleptic	Colour: reddish-brown (root); yellowish-brown (root) Odour: pleasant and aromatic Taste: spicy and sweet
Fluorescence test	One drop of an extract of 1 g dried powdered galangal with ethanol placed on filter paper and observed under UV light does not show fluorescence; (distinction from 'lesser galangal' <i>Alpinia officinarum</i> which gives bluish fluorescence).
Thin-layer chromatography	As per API monograph TLC test
TESTS	
Foreign matter	NMT 2.0% (API Appendix 2.2.2)
Total ash	NMT 5.0% (API Appendix 2.2.3)
Acid-insoluble ash	NMT 2.0% (API Appendix 2.2.4)
Alcohol-soluble extractive	NLT 6.0% (API Appendix 2.2.6)
Water-soluble extractive	NLT 13.0% (API Appendix 2.2.7)
Starch	NLT 22.0% (API Appendix 2.2.13)
Essential oil	NLT 0.4% (API Appendix 2.2.10)
MEDICINAL USES	<i>Sopha</i> (edema), <i>Svasa</i> (asthma), <i>Hikka</i> (hiccup), <i>Pratisyaya</i> (coryza), <i>Vatavyadhi</i> (diseases due to Vata Dosa / Neurological disease), <i>Udara-roga</i> (diseases of the abdomen), <i>Kampa</i> (tremor), <i>Vismajvara</i> (chronic intermittent fever), <i>Kaphaja kasa</i> (cough due to Kapha dosa), <i>Asti</i> (bones), <i>Mahakustha</i> (group of major skin diseases), <i>Vataja Sula</i> (pain due to Vata dosa).

⁵¹ Ayurveda Pharmacopoeia Committee. Kulanjana (Rhizome). In: *The Ayurvedic Pharmacopoeia of India*, Part-I, Volume-I, First Edition. New Delhi, India: Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India. 2001;107-109..

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

Product	Botanical Name	Cult/Wild	Origin	Price / kg	Market
Ajowan fruit, bold	<i>Trachyspermum ammi</i>	Cultivated	India	USD 4.33	C&F LA/NY (FCL 18 tons)
Ajowan fruit, average	<i>Trachyspermum ammi</i>	Cultivated	India	USD 3.88	C&F LA/NY (FCL 18 tons)
Amla fruit	<i>Phyllanthus emblica</i>	Wild/Cult	Nepal	NPR 70	Kathmandu/Nepalgunj
Amla fruit, dried	<i>Phyllanthus emblica</i>	Wild/Cult	India	INR 35-41	Jamshedpur / Dhanbad / Gumla
Ashwagandha root	<i>Withania somnifera</i>	Cult/Wild	India	INR 80-92	Dhandbad/Gumla/Ranchi/Jamshedpur
Ashwagandha root	<i>Withania somnifera</i>	Cult/Wild	India	USD 2.6	C&F NY or LA(FCL)
Belleric myrobalan fruit (without seed)	<i>Terminalia bellerica</i>	Wild/Cult	Nepal	NPR 35	Kathmandu
Cardamom seed (small)	<i>Elettaria cardamomum</i>	Cultivated	India	INR 1075.29	Vandanmettu
Cardamom seed (small)	<i>Elettaria cardamomum</i>	Cultivated	India	USD 30.48	Spot Saudi Arabia
Cassia bark	<i>Cinnamomum aromaticum</i>	Cult/Wild	India	INR 97.5	Chennai
Chebolic myrobalan fruit (without seed)	<i>Terminalia chebula</i>	Wild	Nepal	NPR 40	Kathmandu
Chirata herb	<i>Swertia chirayita</i>	Cult/Wild	Nepal	NPR 365-375	Kathmandu/Nepalgunj
Cinnamon	<i>Cinnamomum verum</i>	Cultivated	India	USD 7.28	Spot NY
Clove flower bud	<i>Syzygium aromaticum</i>	Cultivated	India	INR 330	Cochin
Coriander fruit	<i>Coriandrum sativum</i>	Cultivated	India	INR 29.25-32.50	Mumbai
Cumin	<i>Cuminum cyminum</i>	Cultivated	India	INR 129.38-136.7	Mumbai
Fennel fruit	<i>Foeniculum vulgare</i>	Cultivated	India	INR 121.25	Mumbai
Fenugreek seed	<i>Trigonella foenum-graecum</i>	Cultivated	India	INR 29.75	Mumbai
Garlic bulb	<i>Allium sativum</i>	Cultivated	India	INR 100	Mumbai
Ginger rhizome	<i>Zingiber officinale</i>	Cultivated	India	INR 190-210	Cochin
Ginger rhizome, fresh	<i>Zingiber officinale</i>	Cultivated	Nepal	NPR 50-60	Kathmandu/Nepalgunj
Ginger rhizome, dried	<i>Zingiber officinale</i>	Cultivated	Nepal	NPR 260-280	Kathmandu/Nepalgunj
Ginger rhizome	<i>Zingiber officinale</i>	Cultivated	India	INR 190-210	Cochin
Gotu kola herb	<i>Centella asiatica</i>	Cult/Wild	India	USD 2.1	C&F NY or LA (FCL)
Greater galangal rhizome	<i>Alpinia galanga</i>	Cult/Wild	India	USD 1.55	C&F NY or LA (FCL)
Gymnema leaf	<i>Gymnema sylvestre</i>	Cultivated	India	USD 1.7	C&F NY or LA (FCL)
Indian cardamom seed (large)	<i>Amomum subulatum</i>	Cultivated	India	INR 612.50	Gangtok
Indian Cassia leaf	<i>Cinnamomum tamala</i>	Wild	Nepal	NPR 40-45	Kathmandu/Nepalgunj
Indian rhubarb rhizome	<i>Rheum austral</i>	Wild	Nepal	NPR 35-60	Kathmandu/Nepalgunj
Jatamansi root and rhizome	<i>Nardostachys grandiflora</i>	Wild	Nepal	NPR 300	Kathmandu/Nepalgunj
Long Pepper fruit	<i>Piper longum</i>	Cult/Wild	Nepal	NPR 300-350	Kathmandu/Nepalgunj
Morel mushroom	<i>Morchella conica</i>	Wild	Nepal	NPR 10500	Nepalgunj
Nutmeg kernel (shell)	<i>Myristica fragrans</i>	Cultivated	India	INR 234.17	Cochin
Nutmeg kernel (without shell)	<i>Myristica fragrans</i>	Cultivated	India	INR 430.83	Cochin
Pepper fruit	<i>Piper nigrum</i>	Cultivated	India	INR 204	Cochin
Pepper fruit	<i>Piper nigrum</i>	Cultivated	India	USD 4.55	C&FLA/NY (FCL 20 tons)
Psyllium husk (95% Purity)	<i>Plantago ovata</i>	Cultivated	India	USD 4.25	C&F NY or LA (FCL)
Psyllium husk (99% Purity)	<i>Plantago ovata</i>	Cultivated	India	USD 5.55	C&F NY or LA (FCL)
Psyllium seed	<i>Plantago ovata</i>	Cultivated	India	USD 1.4	C&F NY or LA (FCL)
Psyllium seed	<i>Plantago ovata</i>	Cultivated	India	INR 50-55	Solan/Neemuch
Senna leaf (prime 3)	<i>Cassia angustifolia</i>	Cultivated	India	USD 1.02	C&F NY or LA (FCL)
Senna pod	<i>Cassia angustifolia</i>	Cultivated	India	USD 1.05	C&F NY or LA (FCL)
Senna pod	<i>Cassia angustifolia</i>	Cultivated	India	INR 40-50	Solan
Shatavari root	<i>Asparagus racemosus</i>	Cult/Wild	Nepal	NPR 500-550	Kathmandu/Nepalgunj
Turmeric rhizome	<i>Curcuma longa</i>	Cultivated	India	INR 130-187.5	Cochin / Mumbai
Winged Prickly Ash fruit (with seed)	<i>Zanthoxylum armatum</i>	Wild	Nepal	NPR 90-100	Kathmandu/Nepalgunj

*Certified Organic / ** Certified Organic & Fair Trade

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 14-20, 2010

TRAINING ON MUSHROOM CULTIVATION TECHNOLOGY FOR ENTREPRENEURS II

Venue: Chambaght, Solan India
Sponsors: Directorate of Mushroom Research, Indian Council for Agricultural Research,
Contact: Dr. B. Vijay Sh. Sunil Verma, Chambaghat 173213, Solan, Himachal Pradesh.
TEL: 91-1792-230767, 230541
E-MAIL: Directormr@gmail.com
WEB: <http://www.nrcmushroom.org/calender.html>

September 17-20, 2010

3rd INTERNATIONAL CONFERENCE ON ORGANIC SECTOR DEVELOPMENT IN THE CENTRAL/EASTERN EUROPE AND CENTRAL ASIA

Venue: Georgian State Agrarian University, David Agmashenebeli Avenue, 13th km, 0131, Tbilisi, Georgia
Organizers: Agro Eco Louis Bolk Institute, FIEC, Organic Services, Organic Federation of Ukraine
Supporters: European Commission, International Federation of Organic Agriculture Movements (IFOAM)
Contact: Susanne Krause, TEL: +49 89 820759 05
EMAIL: s.krause@organic-services.com
WEB: www.conference.organiccenter.kz

Attendee profile: Environmental and rural development NGOs, university members, regional and national government officials, farmers associations, consumer opinion makers, organic experts, farmers, processors, traders and more.

October 22-23, 2010

FOOD INGREDIENTS INDIA 2010

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 also be exhibitors of health, nutraceutical, organic and functional ingredients as well as natural ingredients used in medicinal remedies and nutraceuticals.

November 3-4, 2010

2nd INTERNATIONAL SYMPOSIUM ON MEDICINAL PLANTS, THEIR CULTIVATION AND ASPECTS OF USES (2nd ISMP)

Venue: Petra Marriott Hotel-Petra, Jordan
Organizer: Ash-Shoubak University College, Ash-Shoubak, Jordan
Contacts: Dr. Mohammad Sanad Abu-Darwish
TEL: ++96232165082
FAX: ++96232164035
E-MAIL: Maa973@yahoo.com or Confismp@yahoo.com
WEB: <http://ismp.bau.edu.jo>

The conference will address subjects relevant to production and trade of medicinal plants:

- Medicinal plants as bio-indicators and heavy metals accumulators;
- Standardization and quality control of herbal medicinal products;
- Organic cultivation of medicinal plants;
- Climate change and the ethnobotanical sources;
- Impact of cultivation and gathering of medicinal plants on biodiversity;
- Industrial utilization of medicinal plants.

November 8-12, 2010**38TH SESSION & OTHER MEETINGS OF THE INTERNATIONAL PEPPER COMMUNITY (IPC)**

Venue: Hotel Taj Getaway, Kochi, India
Contact: Secretariat Sugandha Bhavan, N.H. by Pass, Palarivattom. P.O, Cochin -682025, Kerala, India
TEL: 91 484 2333610 – 616, ext. 351
FAX 91 484 2334429, 2331429.
E-MAIL: ipcmeet@gmail.com
WEB: <http://www.ipcnet.org/session38in/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.

November 20-24, 2010**2ND INTERNATIONAL BIENNIAL CONFERENCE ON NEW DEVELOPMENTS IN DRUG DISCOVERY FROM NATURAL PRODUCTS AND TRADITIONAL MEDICINES**

Venue: NIPER, SAS Nagar (Mohali), Punjab, India
Organizers: National Institute of Pharmaceutical Education and Research (NIPER) SAS Nager, Mohali, Punjab
Contact: Prof. K. K. Bhutani, Department of Natural Products NIPER, Sector 67, SAS Nagar-160062, Punjab India
E-MAIL: kkbhutani@niper.ac.in
WEB: <http://www.niper-ddnptm.com>

Co-located with the international congress there will be an opportunity for exhibition booths showcasing new products and recent technologies.

November 25-27, 2010**INTERNATIONAL CONFERENCE ON FOLK AND HERBAL MEDICINE (ICFHM)**

Venue: Mohanlal Sukhadia University, Udaipur, Rajasthan, India
Organizer: Department of Botany, Mohanlal Sukhadia University
TEL: +91 294-2413955 ext. 216 / MOBILE: +91 94141-59963
FAX: +91 294 – 2410300
E-MAIL: icfhm2010@gmail.com
WEB: <http://www.icfhm2010.in>

The conference will address subjects relevant to production and trade of medicinal plants:

- Biodiversity of Medicinal Plants: Conservation, Utilization and Sustainable Use
- Agropractices and Commercial Cultivation of Medicinal Plants
- Bioprospecting based on Traditional Knowledge and IPR Related Issues
- Quality Control and Marketing of Herbal Products.

November 26-28, 2010**ASIAN HERBAL SHOW & EXHIBITION**

Venue: The Chennai Trade Centre (CTC), Chennai metro at Nandambakkam
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 Ayurvedic, Siddha and Unani herbal drugs, manufacturers of Ayurvedic herbal medicinal products, 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.

December 6-8, 2010**MIDDLE EAST NATURAL & ORGANIC PRODUCTS EXPO (MENOPE) 2010**

Venue: Dubai International Exhibition & Convention Centre, Dubai, UAE
Patrons: United Arab Emirates Ministry of Health, Dubai Municipality.
Organizer: Global Links Dubai LLC, a division of Conex Exhibitions LLC.
Supporters: International Federation of Organic Agriculture Movements (IFOAM), United Arab Emirates Ministry of Environment & Water, UAE Ministry of Health, Chamber of Herbal Industries of the Philippines, Korea Health Supplement Association (KHTSA), International Competence Centre of Organic Agriculture.
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

December 7-9, 2010**BIOFACH INDIA 2010 INTERNATIONAL ORGANIC TRADE FAIR****Together with India Organic marketplace**

Venue: Bombay Exhibition Centre, Mumbai India
Patron: International Federation of Organic Agriculture Movements (IFOAM)
Supporters: NCOF, Ministry of Agriculture, APEDA, MOFPI
Organizer: NürnbergMesse, Nurnberg Global Fairs, International Competence Centre for Organic Agriculture (ICCOA).
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 8-11, 2010**FOURTH INTERNATIONAL CONFERENCE ON PLANTS AND ENVIRONMENTAL POLLUTION (ICPEP-4)**

Venue: National Botanical Research Institute, Lucknow, India
Organizers: National Botanical Research Institute, Lucknow, India and International Society of Environmental Botanists
Contact: ISEB Secretariat Dr. Rakesh Tuli (President ISEB & Director NBRI) & Dr. K. J. Ahmad (Secretary ISEB), International Society of Environmental Botanists National Botanical Research Institute, Rana Pratap Marg, Lucknow-226001, India.
TEL: +91 522 229 7821
FAX: +91 522 2205836 / 2205839
E-MAIL: isebnbrilko@sify.com, isebmail@gmail.com
WEB: <http://pep2009.erciyes.edu.tr/maintopics.htm>

Topics include: Bioindication & Bioremediation, Environment & Biotechnology, Environmental education, Mass awareness and Legislation, Environmental Impact Assessment and Eco-auditing, Environment and Biodiversity, Plant Responses to Environmental Pollution and Climate Change – Plant Productivity and Food Security.

December 9-13, 2010

4TH WORLD AYURVEDA CONGRESS (4th WAC) AND AROGYA EXPO

Venue: Palace Grounds, Bengaluru, Karnataka, 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), Ministry of Commerce & Industry Government of India, Avs, Kottakal.
Contacts: WAC Secretariat Organising Committee Office, ZCKK 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.



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
WEB: <http://www.ga2011.org>

September 11-14, 2011

42nd INTERNATIONAL SYMPOSIUM ON ESSENTIAL OILS

Venue: Maritim Pine Beach Resort Hotel Convention Center, ILERIBASI MEVKII 5. PARSEL, BELEK-ANTALYA, Turkey
WEB: <http://www.iseo2011.org>

NORTH AMERICA

TAKING A CLOSER LOOK AT THE BLACK COHOSH RHIZOME TRADE FROM USA

The United States of America is the world's leading producer, consumer and exporter of the wild harvested herbal drug **black cohosh rhizome**, which is native to eastern North America from Ontario south to Georgia and west to Missouri. Black cohosh rhizome is traditionally used to help relieve muscle and joint pain associated with rheumatic conditions (such as rheumatoid arthritis, osteoarthritis and/or fibrositis), among other therapeutic uses.

Botanical name:	<i>Actaea racemosa</i> L.	(Family: Ranunculaceae)
Common names:	English name:	Black cohosh
	French name:	Actée noire
	German name:	Traubensilberkerze
	Spanish name:	Cimicifuga
Pharmacopoeial names:	Cimicifugae rhizoma; Cimicifugae racemosae rhizoma	

Definitions

Black Cohosh PhEur consists of the whole or fragmented root and rhizome of *Actaea racemosa* L. (syn. *Cimicifuga racemosa* (L.) Nutt.) harvested at the end of the vegetation period. It contains minimum 1.0 percent of triterpene glycosides expressed as monoammonium glycyrrhizate (dried drug).⁵²

Black Cohosh USP consists of the dried rhizome and roots of *Actaea racemosa* L. [*Cimicifuga racemosa* (L.) Nutt.] (Fam. Ranunculaceae). It is harvested in the summer. It contains not less than 0.4 percent of triterpene glycosides, calculated as 23-epi-26-deoxyactein on the dried basis.⁵³

Black Cohosh Fluidextract USP is prepared from *Black Cohosh USP* by extraction with hydroalcoholic mixtures or isopropanol–water mixtures. Each mL contains the extracted constituents of 1 g of the plant material. It contains not less than 90.0 percent and not more than 110.0 percent of the labeled amount of triterpene glycosides, calculated as 23-epi-26-deoxyactein.

Powdered Black Cohosh Extract USP is prepared from *Black Cohosh USP* by extraction with hydroalcoholic mixtures or other suitable solvents. It contains not less than 90.0 percent and not more than 110.0 percent of the labeled amount of triterpene glycosides, calculated as 23-epi-26-deoxyactein on the dried basis.

Harmonized System Tariff Codes (HS Codes)

Black cohosh rhizome	HS 1211.90 (Source: World Customs Organization)
Black cohosh extract	HS 1302.19 (Source: World Customs Organization)

Native Habitat

Black cohosh is found growing in rich soils on wooded hillsides of the Appalachian Mountains of North America. It ranges from Southern Ontario to Wisconsin and south to South Carolina, Georgia, Tennessee, Arkansas and Missouri and is considered to be relatively more abundant in the southern portion of its range.⁵⁴

Main Producing Areas

⁵² European Pharmacopoeial Committee. Draft Monograph: Black Cohosh. *PHARMEUROPA*. July 2010;22(3):265-268.

⁵³ United States Pharmacopoeial Convention. Black Cohosh. In: *United States Pharmacopeia – National Formulary* (USP 32 – NF 27). Rockville, MD: United States Pharmacopoeial Convention. 2010.

⁵⁴ Egert JL. Medicinal Plant Fact Sheet: *Cimicifuga racemosa* / Black Cohosh. A collaboration of the IUCN Medicinal Plant Specialist Group, PCA-Medicinal Plant Working Group, and North American Pollinator Protection Campaign. Arlington, Virginia: PCA-Medicinal Plant Working Group. April 2007. Available at: http://www.plantconservationwiki.org/wiki/images/4/4b/Fact_sheet-Cimicifuga_racemosa.pdf

United States; mainly from the States of Kentucky and Tennessee but also from Georgia, Ohio, North Carolina, Michigan, South Carolina, Virginia, West Virginia, Wisconsin,⁵⁵ Arkansas and Missouri.⁵⁶

Medicinal Uses

- **European Community:** Black cohosh rhizome is regulated as an active ingredient of licensed Well-Established-Use Herbal Medicinal Products (WEU-HMPs) for oral use, requiring pre-marketing authorization from an EU Member State National Authority. *Therapeutic indications:* Herbal medicinal product for the relief of minor neurovegetative menopausal complaints (such as hot flushes and sweating).⁵⁷
- **North America (Canada):** Black cohosh rhizome is regulated as an active ingredient of licensed Natural Health Products (NHPs) for oral use, requiring premarketing authorization from the NHPD. *Therapeutic indications:* (a) used in Herbal Medicine to help relieve muscle and joint pain associated with rheumatic conditions (such as rheumatoid arthritis, osteoarthritis and/or fibrositis), and of pain associated with neuralgia (such as sciatica); (b) used in Herbal Medicine to help relieve the pain associated with menstruation; (c) used in Herbal Medicine to help relieve premenstrual symptoms; (d) to help relieve symptoms associated with menopause. The medicinal ingredient may comply with the specifications outlined in the Black Cohosh, Black Cohosh Fluidextract, Powdered Black Cohosh, Powdered Black Cohosh Extract, or the Black Cohosh Tablets Monographs published in the US Pharmacopeia (USP).⁵⁸

Quality Standards

There are official pharmacopoeial monographs for Black Cohosh rhizome from the European Pharmacopoeia (PhEur) and United States Pharmacopoeia (USP), which can be utilized for test and release specifications. **Table 1** compares the quality standards from the EU and the USA.

Table 1: Comparison of Black Cohosh rhizome Pharmacopoeial Quality Standards

Standard	PhEur	USP-NF
Identification Tests:	Macroscopic ID Test A	Macroscopic ID Test
	Microscopic ID Test B	Microscopic ID Test
	Thin-layer chromatography (TLC) ID Test C	Thin-layer chromatography (TLC) ID Test A
	TLC tests for detection of adulterations with <i>Cimicifuga americana</i> , <i>C. foetida</i> , <i>C. dahurica</i> and <i>C. heracleifolia</i>	TLC Tests B and C for detection of adulterations with <i>Cimicifuga foetida</i>
Loss on drying	NMT 12% (PhEur 2.2.32)	NMT 12.0% (USP <731>)
Foreign matter	NMT 5% (PhEur 2.8.2)	NMT 2.0% of foreign organic matter and NMT 5.0% of stem bases (USP <561>)
Total ash	NMT 10.0% (PhEur 2.4.16)	NMT 10.0% (USP <561>)
Acid insoluble ash	NMT 5.0% (PhEur 2.8.1)	NMT 4.0% (USP <561>)
Content	NLT 1.0% of triterpene glycosides, expressed as monoammonium glycyrrhizate (C ₄₂ H ₆₅ NO ₁₆ ; M, 840) (dried drug) as determined by HPLC.	NLT 0.4% of triterpene glycosides, calculated as 23-epi-26-deoxyactein- (C ₃₇ H ₅₆ O ₁₀) on the dried basis
Alcohol soluble extractives	No standard	NLT 8.0% (USP <561> Method II)
Microbial contamination (Note: PhEur limits are for herbal drugs that will be further prepared or processed with boiling water)	Total Aerobic Microbial Count: Acceptance criterion: 10 ⁷ /g; Maximum acceptable count: 50,000,000 /g Total Yeast and Mould Count: Acceptance criterion: 10 ⁵ /g; Maximum acceptable count: 500,000 /g <i>Escherichia coli</i> : Acceptance criterion: 10 ³ /g <i>Salmonella</i> : Absence (25 g)	Total aerobic microbial count NMT 10 ⁵ /g Combined molds & yeasts NMT 10 ³ /g Bile-tolerant Gram-negative bacteria NMT 10 ³ /g <i>Salmonella</i> species – absent <i>Escherichia coli</i> – absent
Pesticide Residues	Meets the requirements PhEur General Chapter 2.8.13	Meets the requirements of USP General Chapter <561>
Heavy Metals	NMT 1.0 ppm cadmium; NMT 5.0 ppm lead; NMT 0.1 ppm mercury	NMT 10 µg per g (USP <231>)

⁵⁵ Upton R et al. Black Cohosh Rhizome. *Actaea racemosa* L. syn. *Cimicifuga racemosa* (L.) Nutt. *American Herbal Pharmacopoeia™ and Therapeutic Compendium*. Santa Cruz, CA: American Herbal Pharmacopoeia. 2002.

⁵⁶ Lockard A, Swanson AQ. *A Digger's Guide to Medicinal Plants*, 2nd Edition. Eolia, MO: American Botanicals. 2004;19-22.

⁵⁷ European Medicines Agency (EMA) Committee on Herbal Medicinal Products (HMPC). Draft Community Herbal Monograph on *Cimicifuga racemosa* (L.) Nutt., Rhizoma. London, UK: EMA. 17 Sep 2009. Available at: http://www.ema.europa.eu/docs/en_GB/document_library/Herbal_-_Community_herbal_monograph/2009/12/WC500018213.pdf

⁵⁸ Health Canada Natural Health Products Directorate (NHPD). Monograph: Black Cohosh. Ottawa, ON: Health Canada. 19 Sept 2008 Available at: <http://webprod.hc-sc.gc.ca/nhp/nd-bd/jpsn/monoReg.do?id=44&lang=eng>

Production Scenario

A useful book which describes black cohosh harvesting practices is available:

Lockard A, Swanson AQ. *A Digger's Guide to Medicinal Plants*, 2nd Edition. Eolia, Missouri: American Botanicals. 2004;19-22. Available for USD \$19.95 from American Botanicals: <http://www.americanbotanicals.com/retail/books.php>

The following information on black cohosh production is based, in part, on information from the above referenced book by Lockard and Swanson (2004), as well as from supplementary information that is provided in the general chapters of the *United States Pharmacopeia*.⁵⁹ The USP supplementary information is based, in part, on the 2002 *American Herbal Pharmacopoeia* (AHP) Black Cohosh monograph.⁶⁰

Black cohosh is harvested after the plant becomes reproductive, which occurs anywhere from 2 to 8 years of age in cultivated plants depending on growing techniques. A portion of the rhizome with a visible bud on it should be left in the ground to resprout the following year. Refraining from harvesting plants until after they have set seed and leaving a portion of the rhizome in the ground to resprout are key components to sustainable wild harvesting.

Harvest: Rhizomes and roots should be harvested in autumn when the plant is dormant. In the autumn, the subterranean parts of the plant have lower moisture content than in other seasons. Fall harvesting also allows plants to produce mature seeds before being uprooted.⁶¹

The older more mature roots should be harvested from the patch, leaving the younger ones for the future. At least 20% of any patch should be left to reseed. Rotate patches from year to year.⁶²

Post-harvest handling: Rhizomes with roots may be processed fresh or dried. They should be thoroughly washed directly after harvest and then laid out to dry. Freshly harvested roots should be solid but not woody.

Drying: Rhizomes with roots are cut and air-dried at 35° to 45°. They are fully dried when they are brittle and snap easily and when no moisture is evident in cross section, either visibly or to the touch.

Storage: Make certain that the roots are thoroughly dry before storing. Store in paper or burlap bags. Never use plastic bags for storing black cohosh rhizomes.⁶³

Follow general guidelines for storage by packing in airtight containers protected from light, heat, moisture, and insect infestation.

The information in the following box is excerpted from a medicinal plant fact sheet on black cohosh rhizome that was prepared by ethnobotanist and forest ecologist Jolie Lonner Egert;⁶⁴ available at: http://www.plantconservationwiki.org/wiki/images/4/4b/Fact_sheet-Cimicifuga_racemosa.pdf.

⁵⁹ United States Pharmacopeia Convention. Supplemental Information and General Guidance Protocols Black Cohosh *Actaea racemosa* L. [Cimicifuga racemosa (L.) Nutt.] (Fam. Ranunculaceae). Pharmacopeial Forum: 2009;35(6):1551.

⁶⁰ Upton R et al. Black Cohosh Rhizome. *Actaea racemosa* L. syn. *Cimicifuga racemosa* (L.) Nutt. *American Herbal Pharmacopoeia™ and Therapeutic Compendium*. Santa Cruz, CA: American Herbal Pharmacopoeia. 2002.

⁶¹ United States Pharmacopeia Convention. Supplemental Information and General Guidance Protocols Black Cohosh *Actaea racemosa* L. [Cimicifuga racemosa (L.) Nutt.] (Fam. Ranunculaceae). Pharmacopeial Forum: 2009;35(6):1551.

⁶² Lockard A, Swanson AQ. *A Digger's Guide to Medicinal Plants*, 2nd Edition. Eolia, MO: American Botanicals. 2004;19-22.

⁶³ Lockard A, Swanson AQ. *A Digger's Guide to Medicinal Plants*, 2nd Edition. Eolia, MO: American Botanicals. 2004;19-22.

⁶⁴ Egert JL. Medicinal Plant Fact Sheet: *Cimicifuga racemosa* / Black Cohosh. A collaboration of the IUCN Medicinal Plant Specialist Group, PCA-Medicinal Plant Working Group, and North American Pollinator Protection Campaign. Arlington, Virginia: PCA-Medicinal Plant Working Group. April 2007. Available at: http://www.plantconservationwiki.org/wiki/images/4/4b/Fact_sheet-Cimicifuga_racemosa.pdf

Black cohosh is a slow-growing perennial with global demand. Because this species is primarily wild harvested and the harvest results in mortality of the plant, wild black cohosh populations may be susceptible to over-harvest. There are ongoing efforts to research harvest impacts on black cohosh and provide information to help collectors and resource managers make conservation decisions. Wild populations must be monitored and greater emphasis must be given to cultivation. The following good stewardship practices can help to maintain or enhance wild black cohosh populations.

- **Wild-harvesters:** Find out the legal requirements for wild-harvesting black cohosh in your state; rotate harvest areas; thin patches rather than collecting all available plants; leave a portion of mature and juvenile individuals untouched; replant parts of harvested roots.
- **Growers:** Find out the legal requirements for cultivating in your state; ensure planting stock is obtained in a way that does not threaten wild populations; consult local experts and resources for cultivation requirements in your area.
- **Practitioners and Consumers:** Choose sustainable-wildcrafted or verifiably cultivated sources of black cohosh bulk herbs or supplements; use black cohosh only when it is best indicated; when choosing substitutes, exercise caution not to choose a species that is equally vulnerable to over-harvest.

Conservation status

In 2002 there was a proposal to include black cohosh in Appendix II of the *Conventional on International Trade of Endangered Species (CITES)*, which was not carried out.⁶⁵ According to United States Fish and Wildlife Service (USFWS 2002):

“Black cohosh (Cimicifuga racemosa [Actaea racemosa]) and Look-Alike Congeneric Species (Cimicifuga spp.)--Proposal for Inclusion in Appendix II: Black cohosh has a very broad range in eastern North America and is frequently encountered in a wide variety of wooded habitats across its range. It has not previously been proposed for CITES listing. The primary threats to black cohosh are habitat loss and over-collection. It is in great demand for its medicinal properties. Already popular in Europe and Australia, where most of the harvest is shipped, black cohosh has recently experienced a dramatic increase in consumption, especially in the United States. Some raw material is exported from the United States to Europe, where it is processed for re-export back to the United States. Indicators show long-term growth in demand for black cohosh despite recent wholesale price fluctuations. Most black cohosh is harvested from the wild in the eastern United States. It is cultivated only on a very limited scale. Average annual harvest from the wild is estimated to impact tens of millions of individuals per year. Black cohosh is rare in Illinois, Massachusetts, Mississippi, and Ontario, and extirpated in Iowa, but reportedly abundant in other portions of its range. However, many experts state with certainty that unsustainable harvest is occurring and that populations are declining, especially on public lands. Unauthorized collection on National Forests is reported to be extensive, and incidents of poaching from National Parks have been documented in recent years. Though it is unlikely that they are targeted for collection from the wild, mountain bugbane (C. americana [=Actaea podocarpa]) and Appalachian bugbane (C. [=Actaea] rubifolia) are suspected to be incidentally collected along with black cohosh where they co-occur. There are also three other species of Cimicifuga found in the western United States and Canada that are likely to be indistinguishable in trade from C. racemosa. In order to control illegal trade in these species and generate additional trade data, we intend to review and consider listing U.S. native species of the genus Cimicifuga in CITES Appendix III. Consequently, the United States does not intend to seek Appendix-II listing for this taxon at this time.”

⁶⁵ United States Fish and Wildlife Service (USFWS). Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); Twelfth Regular Meeting; Proposed Resolutions, Decisions, and Agenda Items Being Considered; Taxa Being Considered for Amendments to the CITES Appendices; Public Meeting Reminder. *Federal Register*. April 18, 2002;67(75):19207-19235

Selected Exporters of Black cohosh

Suppliers of black cohosh raw materials:

- American Botanicals (USA) <http://www.americanbotanicals.com>
- BDS Natural Products (USA) <http://www.bdsnatural.com>
- BI Nutraceuticals (USA) <http://www.botanicals.com>
- Botanics Trading LLC (USA) <http://www.botanicstrading.com>
- Good Hope Botanicals (USA) <http://www.goodhopebotanicals.com>
- Mountain Rose Herbs (USA) <http://www.mountainroseherbs.com>
- Pacific Botanicals (USA) <http://www.pacificbotanicals.com>
- PharmaNutrients Botanical Corp. (Canada) <http://www.pharmanutrients.ca>
- San Francisco Herb & Natural Food Co. (USA) <http://www.herbspicetea.com>
- Starwest Botanicals (USA) <http://www.starwest-botanicals.com>
- Strategic Sourcing Inc. (USA) <http://www.strategicsourcinginc.net>
- Stryka Botanicals (USA) <http://www.stryka.com>

Suppliers of black cohosh extracts:

- Algart International Inc. (Canada) <http://www.algart.ca>
- A.M. Todd Botanical Therapeutics <http://www.amtodd.com>
- BDS Natural Products (USA) <http://www.bdsnatural.com>
- Bio-Botanica (USA) <http://www.bio-botanica.com>
- Canadian Phytopharmaceuticals Corp <http://www.canphyto.com>
- Euromed USA <http://www.euromed.es>
- General Ingredient (Canada) <http://www.generalingredient.com>
- Naturex USA <http://www.naturex.com>
- Nutraceuticals International (USA) <http://www.nutraceuticalsintl.com>
- Orcas International (USA) <http://www.orcas-intl.com>
- Stryka Botanicals (USA) <http://www.stryka.com>
- Unichem (Canada & USA) <http://www.unichemsupply.com>

Market Prices

Information on spot market prices is available from some wholesale distribution companies in the western United States. **Table 2** provides spot market prices from four U.S. companies; Good Hope Botanicals, Mountain Rose Herbs, Pacific Botanicals, and San Francisco Herb & Natural Food Co.

Table 2: Black cohosh rhizome Spot Market Prices (USD per lb) / Selected U.S. Distributors

Note: In the U.S., many distributors sell in pound (lb) quantities rather than metric kilogram (kg) quantities. 1 kg = 2.2046 lb.

Wholesale distributors	Processed form	1-4 lb	5-9 lbs	10-24 lbs	25-49 lbs	50-99 lbs	>100 lbs
Good Hope Botanicals							
- Wild collected	Cut and sifted	\$13.90	\$12.51	\$11.82	\$10.43	Inquire	Inquire
Mountain Rose Herbs							
- Certified organic	Cut and sifted	\$19.50	\$17.55	\$16.58	\$15.60	\$13.65	\$11.70
- Certified organic	Powdered	\$22.00	\$19.80	\$18.70	\$17.60	\$15.40	\$13.20
Pacific Botanicals							
- Wild collected	Cut and sifted	\$11.90	\$10.60	\$10.60	\$10.00	\$10.00	\$9.20
- Wild collected	Powdered	\$13.50	\$12.50	\$12.50	\$10.50	\$10.50	\$9.70
San Francisco Herb & Natural Food Co.							
- Wild collected	Cut and sifted	\$12.50	\$11.88	\$11.25	\$10.63	Inquire	Inquire
- Wild collected	Powdered	\$12.75	\$12.11	\$11.48	\$10.87	Inquire	inquire
- Certified organic	Powdered	\$14.00	\$13.30	\$12.60	\$11.90	Inquire	Inquire

SOURCES:

Good Hope Botanicals

http://www.goodhopebotanicals.com/herbs_spices.htm

Mountain Rose Herbs Wholesale:

<http://www.mountainroseherbs.com/wholesale.html>

Pacific Botanicals Online Store:

<http://www.pacificbotanicals.com/store>

San Francisco Herb & Natural Food Co. Wholesale Catalog 2010:

<http://www.herbspicetea.com/SFPromo.PDF>

Volume of North American Black Cohosh Trade

Although this native American species is widely used in Canada and in the United States, much of the supply is exported to Europe where black cohosh extracts have become very popular remedies, particularly in Germany which is the largest market in the EU. However, because black cohosh does not have a unique 10-digit tariff code assigned in the Harmonized Tariff Schedule of the United States (HTSUS), it would be difficult to determine how much of the harvest is exported.

Estimates of annual trade quantities are available by way of trade association surveys of member companies. In February 2007, the *American Herbal Products Association* (AHPA) published its fifth survey quantifying annual harvests of selected native North American medicinal and aromatic plants (MAPs) that are harvested from wild populations. This report, the “*2004–2005 Tonnage Survey of Select North American Wild-Harvested Plants*,”⁶⁶ covers the harvests from 2004 and 2005 for 26 botanicals derived from 22 plant species. The report includes data on quantities of wild-harvested and cultivated materials. Recognized as a vital index of native U.S. botanicals consumption it also includes data from the four earlier surveys dating back to 1997. AHPA is presently carrying out the sixth survey covering the harvests from 2006 and 2007, which should be published in 2010.

Table 3 shows the estimated quantities of black cohosh rhizome wild harvested and cultivated as reported in the AHPA tonnage surveys. Over the nine-year period of surveys, the average annual trade volume appears to be about 120,566 kg.

Table 3: Black cohosh estimated annual trade quantities / 1997-2005 / dry weight in kg

YEAR	Estimated quantity (kg) from cultivation	Estimated quantity (kg) from wild-collection
1997	0	102,967
1998	16,071	329,304
1999	1,179	65,938
2000	68	53,453
2001	2,958	80,596
2002	128	76,856
2003	186	144,309
2004	1,502	144,575
2005	3,143	61,857
9-year total	25,235	1,059,855

SOURCE: American Herbal Products Association. *Tonnage Survey of Select North American Wild-Harvested Plants, 2004-2005*. Silver Spring, MD: American Herbal Products Association. February 2007.

⁶⁶ American Herbal Products Association. *Tonnage Survey of Select North American Wild-Harvested Plants, 2004-2005*. Silver Spring, MD: American Herbal Products Association. February 2007.

**BOTANICAL PRODUCT SPECIFICATIONS
POWDERED BLACK COHOSH EXTRACT
A product of the USA**

PRODUCT	Powdered Black Cohosh Extract USP⁶⁷
Botanical name	<i>Actaea racemosa</i> L. (Fam. Ranunculaceae).
Pharmacopoeial name	Cimicifugae rhizoma extractum siccum normatum
Part used	Dried rhizome and roots collected in the autumn
Cultivated or wild	Mainly wild collected; some supply may be cultivated
Production	The extract is produced from Black Cohosh USP by extraction with hydroalcoholic mixtures or other suitable solvents
Storage	Preserve in tight, light-resistant containers, and store in a cool place.

IDENTIFICATION

Thin layer chromatography (TLC)	TLC ID Test A; TLC ID Test B for detection of adulterations with other species (<i>Cimicifuga foetida</i>)
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TESTS

Content	The extract contains not less than 90.0 percent and not more than 110.0 percent of the labeled amount of triterpene glycosides, calculated as 23-epi-26-deoxyactein (C ₃₇ H ₅₆ O ₁₀) on the dried basis.
Loss on drying	NMT 5.0%

CONTAMINATION

Total aerobic microbial count	NMT 10 ⁴ CFU/g
Total combined yeast/moulds count	NMT 10 ³ CFU/g
<i>Escherichia coli</i>	Absent in 10 g
<i>Salmonella spp.</i>	Absent in 10 g
Heavy metals	Maximum 10 µg per g (USP Method II <231>)
Pesticide residues	Meets the requirements of USP General Chapter <561>
Residual solvents	Meets the requirements of USP General Chapter <561>

BOTANICAL RAW MATERIALS (indicative bulk prices)

Product	Botanical Name	Grade	Cultivated Or Wild	Origin	Price/kg	Basis
American ginseng root	<i>Panax quinquefolius</i>	Small legs	Cultivated	Minnesota	USD 44	FOB SF
American ginseng root	<i>Panax quinquefolius</i>	Medium legs	Cultivated	Minnesota	USD 88-110	FOB SF
American ginseng root	<i>Panax quinquefolius</i>	USP-grade	Cultivated	Wisconsin	USD 41	Farmgate-WI
American ginseng root*	<i>Panax quinquefolius</i>	USP-grade	Cultivated	Canada	USD 49	Farmgate
Black Cohosh rhizome	<i>Actaea racemosa</i>	Extract quality	Wild	USA	USD 14.35	EXW
Cascara bark, powdered	<i>Frangula purshiana</i>	NK	Wild	USA	USD 10.92	CIF
Coriander fruit	<i>Coriandrum sativum</i>	NK	Cultivated	Canada	USD 1.61	Spot NY
Damiana leaf, cut & sifted	<i>Turnera diffusa</i>	NK	Wild	Mexico	USD 7.09	CIF
Echinacea herb*, TBC	<i>Echinacea purpurea</i>	PhEur-grade	Cultivated	Pacific NW	USD 5.95	FOB Pac NW
Echinacea root* TBC	<i>Echinacea purpurea</i>	PhEur-grade	Cultivated	Pacific NW	USD 22.04	FOB Pac NW
Echinacea root*	<i>Echinacea purpurea</i>	USP-grade	Cultivated	California	USD 12.5	Farmgate-CA
Goldenseal rhizome	<i>Hydrastis canadensis</i>	NK	Wild	USA	USD 70.5	EXW
Goldenseal rhizome	<i>Hydrastis canadensis</i>	Extract quality	Cultivated	Wisconsin	USD 81	Farmgate-WI
Peppermint leaf * TBC	<i>Mentha x piperita</i>	PhEur-grade	Cultivated	USA	USD 7.71-8.16	FOB USA
Saw palmetto fruit	<i>Serenoa repens</i>	USP-grade	Wild	Florida	USD 8.75	EXW-FL
Slippery elm bark* Powder	<i>Ulmus rubra</i>	USP-grade	Wild	USA	USD 28.66	FOB USA

* Certified organic – NK = Grade not known

⁶⁷ United States Pharmacopeia Convention. Powdered Black Cohosh Extract. In: *United States Pharmacopeia – National Formulary (USP 32 – NF 27)*. Rockville, MD: United States Pharmacopeia Convention. 2010.

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

BOTANICAL EXTRACTS (Indicative bulk prices)

Product	Standard	Price USD/kg	Basis
Black cohosh rhizome dry extract (<i>Actaea racemosa</i>)	min 2.5% triterpene glycosides as 27-deoxyactein	65-85	FOB USA
Echinacea purpurea herb dry extract (<i>Echinacea purpurea</i>)	min 4% phenols expressed as chlorogenic acid	30-48	FOB USA
Ginkgo leaf dry extract USP-grade (<i>Ginkgo biloba</i>)	min. 24% ginkgolavonglycosides, 2.6-3.2%; bilobalide; 2.8-3.4% ginkgolides A,	175-275	FOB USA
Saw palmetto fruit extract (EU standard) (<i>Serenoa repens</i>)	min 85% and max 95% fatty acids	55-67	FOB USA

MEETINGS AND TRADE SHOWS NORTH AMERICAN COUNTRIES

September 29-30, 2010

2010 ASTA LEGISLATIVE/REGULATORY MEETING

Venue: Renaissance M Street Hotel, Washington, D.C. USA
 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=4145>

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 9, 2010

HAWAI'I PACIFIC ISLANDS KAVA FESTIVAL:

MALUHIA KA HONUA (SO THAT THE WORLD MAY BE AT PEACE)

Venue: UH Mania 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://kavafestival.org>

October 13-16, 2010

ALL THINGS ORGANIC CONFERENCE AND TRADE SHOW CO-LOCATED WITH ORGANIC PRODUCTS EXPO, BIOFACH AMERICA

Venue: Boston Convention & Exhibition Center, Boston MA
 Organizer: NürnbergMesse, IFOAM
 Contact: TEL: 866 458 4935 (toll free US only), 303 390 1776
 E-MAIL: tradeshows@newhope.com
 WEB: <http://www.biofach-america.com>

Although All Things Organic is primarily an exhibition for certified organic finished products, there will be some exhibitors of organic medicinal and aromatic herbs, extracts.

October 20-22, 2010

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 include:

Company Name	Booth Number
A.M. Todd Botanical Therapeutics	23061
Active Organics LP	27084
Advantage Botanicals Co. LLC	15079
Amax NutraSource Inc.	18022
Amazon Forest Inc.	20055
American Sanjiang Bio-Fountain Inc.	24112
Asiamerica Ingredients Inc.	15075
Ayush Herbs Inc.	22054
BDS Natural Products	14057
Beijing Gingko Group, North America Inc.	13068
BI Nutraceuticals	17049
Bio Serae Laboratoires SAS	20083
Bio-Botanica Inc.	24052
Bioactive Resources LLC	17098
Burgundy Botanical Extracts	16056
Cepharm Inc.	19108
Changsha Nutramax Inc.	13091
Chengdu Runde Pharmaceutical Co. Ltd.	18108
Chongqing Imperial Bio-Chem Co. Ltd.	27027
Coach Industries Inc.	18084
Draco Natural Products Inc.	13063
Ecuadorian Rainforest LLC	26073
Ethical Naturals Inc.	20018
Eurochem Asia Ltd.	16108
Eurofins Scientific Inc.	15063
Euromed USA	24070
Extracts & Ingredients Ltd.	26082
Fenchem Inc.	18035
Frutarom USA Inc.	25060 & 25061
GCI Nutrients	11025
Gencor Nutrients Inc.	21021
Global Marketing Associates Inc.	24094
Guangzhou Honsea Sunshine Bio Science & Technology Co. Ltd.	16025
Guilin Layn Natural Ingredients Corp.	17101
Herbal Teas International	19033
HP Ingredients	20071
Hsu's Ginseng Enterprises Inc.	22093
HuZhou N.B.C. Bio & Material Co. Ltd.	25099
Indena USA Inc.	22071
Indo World Trading Corp.	16076
Ingredients By Nature	17106
Jairamdass Khushiram	14070
JBiChem	18053
Jiangsu Kanion Pharmaceutical Co. Ltd	21125
K. Patel Phyto Extractions Pvt. Ltd.	17100
KPC Products	25095
Lipond International Inc.	11022

Company Name	Booth Number
Maruzen Pharmaceuticals Co. Ltd.	25071
Maypro Industries LLC	11035
Naturex Inc.	21033
Ningbo Liwah Pharmaceutical Co. Ltd.	25065
NP Nutra	13077
Nutraceuticals International LLC	10015
Nutriland Group Inc.	17069
Orcas International Inc.	19048
Organic Herb Trade	15098
Orgenetics Inc.	20011
P.L. Thomas & Co. Inc.	21061
Pacific Rainbow International Inc.	15043
Peruvian Heritage	19114
Pharmachem Laboratories Inc.	22033
Phytochem Intl. Inc.	18106
PlusPharma Inc.	12017
Premium Ingredients International	24042
RFI	24027
Sabinsa Corp.	22027
Shaanxi Jiahe Phytochem Co. Ltd.	17055
Sinochem Qingdao Co. Ltd.	15099
Skyherb Technologies Co. Ltd.	16017
Stauber Performance Ingredients Inc.	20061
Stryka Botanicals	14043
Suan Farma Inc.	20077
Verdure Sciences	26094
Whole Herb Co.	13087
Zhejiang Medicines & Health Products I/E Co. Ltd.	16087

March 11-13, 2011
SUPPLY EXPO 2011

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://www.supplyexpo.com>

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

April 11-15, 2011
10th ANNUAL OXFORD INTERNATIONAL CONFERENCE ON THE SCIENCE OF BOTANICALS

Venue: Oxford Conference Center, Mississippi USA
 Organizers: The National Center for Natural Products Research (NCNPR), School of Pharmacy at the University of Mississippi
 Sponsors: NCNPR and the Center for Food Safety and Applied Nutrition (CFSAN) of the U.S. Food and Drug Administration (FDA)
 Contact: ICSB@olemiss.edu
 WEB: <http://www.oxfordicsb.org>

May 2-4, 2011

SUPPLY SIDE EAST INTERNATIONAL TRADE SHOW AND CONFERENCE

Venue: Meadowlands Exhibition Center, Secaucus, New Jersey USA
Organizer: Virgo Publishing, Phoenix, Arizona USA
Contact: Todd Willis TEL: 480 990 1101 ext 1171
E-MAIL: twillis@vpico.com
WEB: <http://www.supplysideshow.com/east/2010>

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

June 11-16, 2011

12th NORTH AMERICAN AGROFORESTRY CONFERENCE, A PROFITABLE LAND USE

Venue: Stoney Creek Inn, Columbia, Missouri, USA
Hosts: University of Georgia and the Association for Temperate Agroforestry
Sponsors: College of Agricultural and Environmental Sciences, Fort Valley State University, Odum School of Ecology, Georgia Organics, Warnell School of Forestry and Natural Resources.
Contact: Carla Wood, Conference Office Director, University of Georgia, College of Agricultural and Environmental Sciences, Athens Conference Office, 202 Hoke Smith Building Athens Georgia, 30602
TEL: 706 583 0347
E-MAIL: carlam@uga.edu
WEB: <http://www.centerforagroforestry.org>
<http://hosting.caes.uga.edu/2011AFTA/index.html>

SOUTH AMERICA

TAKING A CLOSER LOOK AT THE CAT'S CLAW TRADE FROM PERU

The Republic of Peru is the world's leading producer and exporter of the herbal drug **cat's claw stem bark** (*Uncaria tomentosa*), which is native to the Amazon basin and grows wild throughout the Amazon rainforest. Extracts of the bark of *Uncaria tomentosa* (Cat's Claw – Uña de Gato) have been used traditionally for their anti-inflammatory and anticancer properties.⁶⁸

Botanical name: *Uncaria tomentosa* (Willd.) DC. [Fam. Rubiaceae]

Common names:

Asháninka:	kug-kukjagui.
English:	Cat's claw
German:	Krallendorn; Katzenkralle
Portuguese:	Unha-de-gato; Deixa paraguayao
Spanish:	Uña de gato

Pharmacopoeial names: Cortex Uncariae; Uncariae Tomentosae Cortex
Extractum Radicis Uncariae tomentosae

Definitions

Cat's Claw USP consists of the inner bark of the stems of *Uncaria tomentosa* (Willd.) DC. (Fam. Rubiaceae). It contains not less than 0.3 percent of pentacyclic oxindole alkaloids, calculated on the dried basis, as the sum of speciophylline, uncarine F, mitraphylline, isomitraphylline, pteropodine, and isopteropodine.⁶⁹

Powdered Cat's Claw Extract USP is prepared from Cat's Claw USP by extraction with hydroalcoholic mixtures or other suitable solvents. The ratio of plant material to extract is between 4:1 and 6:1. It contains not less than 90.0 percent and not more than 110.0 percent of the labeled amount of pentacyclic oxindole alkaloids.

Harmonized System Tariff Codes (HS Codes)⁷⁰

Uña de gato (<i>Uncaria tomentosa</i>)	HS 1211.9050.00
Extracto de uña de gato	HS 1302.1910.00
Extracto de uña de gato presentada o acondicionada para la venta al por menor:	HS 1302.1911.00
Los demás	HS 1302.1919.00

Native Habitat

Cat's claw is native to Central America and northern South America including Belize, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Nicaragua, Peru, Suriname, Trinidad and Tobago, and Venezuela.⁷¹

Main Producing Areas

In the Peruvian Amazon and at altitudes from 200 to 800 m. Widely distributed in the Central Forest Region; Chanchamayo (Junín), Satipo, Oxapampa (Pasco), Codo del Pozuzo, Valle de los ríos Pichis, Palcazu y Pachitea, Bosque Nacional Alexander von Humboldt), including the areas of "San Martín" (Tarapoto, Mariscal Cáceres) and "Madre de Dios" (Manu, Tahuamanu). Outside of Peru,

⁶⁸ Fazio AL et al. An ethanolic extract of *Uncaria tomentosa* reduces inflammation and B16-BL6 melanoma growth in C57BL/6 mice. *Boletín Latinoamericano y del Caribe de Plantas Medicinales y Aromáticas*. 2008;7(5):217-224: http://www.uv.es/prietojm/Old%20Blacpma/old%20blacpma%20archive/BLACPMA_V7_N4.pdf

⁶⁹ United States Pharmacopoeial Convention. Cat's Claw. In: United States Pharmacopeia 33rd Revision National Formulary 28th Edition (USP33-NF28). Rockville, MD: United States Pharmacopoeial Convention. 2010.

⁷⁰ Sources: (1) Superintendencia Nacional de Administración Tributaria (SUNAT); (2) NANDINA Common Nomenclature, based on the Customs Cooperation Council's Harmonized Description and Coding System (Harmonized System): http://www.comunidadandina.org/normativa/dec/DEC653_Cap01-30.pdf

⁷¹ World Health Organization (WHO). WHO Monographs on Selected Medicinal Plants, Volume 3. Geneva, Switzerland: World Health Organization. 2007;349-358. Available at: <http://apps.who.int/medicinedocs/index/assoc/s14213e/s14213e.pdf>

cat's claw is also produced in Panamá (Valle del río Gatán), Nicaragua, Venezuela, Guayana, Trinidad, Tobago, Colombia, and Ecuador.⁷²

Medicinal Uses in Selected Export Markets

- **Australia:** Cat's claw bark is regulated as an active ingredient of Listed Medicines, some over-the-counter (OTC) but some for practitioner dispensing only, requiring pre-marketing authorization from the Therapeutic Goods Administration (TGA), for oral use to assist with relief of inflammatory symptoms; to assist in the management of osteoarthritic pain; or for temporary relief of osteoarthritic pain.⁷³
- **Austria:** Cat's claw bark extract is regulated as an active ingredient of licensed Herbal Medicinal Products (HMPs), requiring pre-marketing authorization and available only in pharmacies with a doctor's prescription; for oral use as adjunctive therapy for the treatment of rheumatoid arthritis.⁷⁴
- **Canada:** Cat's claw bark is regulated as an active ingredient of licensed Natural Health Products (NHPs), requiring pre-marketing authorization from the Natural Health Products Directorate (NHPD); for oral use for the promotion of joint mobility and flexibility.⁷⁵
- **United States:** Cat's claw bark is regulated as component of Dietary Supplement Products (DSPs), requiring pre-marketing notification of FDA, for oral use (not permitted for medicinal use).

Quality Standards

There are pharmacopoeial monographs published in the United States Pharmacopeia (USP 33)⁷⁶ and World Health Organization (WHO Monographs Volume 3)⁷⁷ among others. **Table 1** compares these pharmacopoeial quality standards for Cat's Claw Bark.

Table 1: Comparison of Cat's Claw Pharmacopoeial Quality Standards

Standard	USP 33 NF 28	WHO Volume 3
Identification Tests:	Macroscopic examination	Macroscopic examination
	Microscopic examination	Microscopic examination
	Thin layer chromatography (TLC) ID test	Thin layer chromatography (TLC) ID test
Loss on drying	NMT 7.0%	In accordance with national requirements
Foreign organic matter	NMT 2.0%	In accordance with national requirements
Total ash	NMT 8.0%	In accordance with national requirements
Acid-insoluble ash	NMT 2.0%	In accordance with national requirements
Content of pentacyclic oxindole alkaloids	NLT 0.3% of pentacyclic oxindole alkaloids, calculated on the dried basis, as the sum of speciophylline, uncarine F, mitraphylline, isomitraphylline, pteropodine, and isopteropodine	High performance liquid chromatography (HPLC) for the presence of characteristic oxindole alkaloids
Limit of tetracyclic oxindole alkaloids	NMT 0.05% by HPLC	NMT 0.02% by HPLC
Microbial enumeration	<i>Salmonella</i> species – absent <i>Escherichia coli</i> – absent Total aerobic microbial count NMT 10 ⁵ /g Combined molds & yeasts NMT 10 ³ /g Bile-tolerant Gram-negative bacteria NMT 10 ³ /g	<i>Salmonella</i> species – absent <i>Escherichia coli</i> – NMT 10 cfu /g Total aerobic microbial count NMT 10 ⁵ /g Combined molds & yeasts NMT 10 ³ /g Other enterobacteria NMT 10 ³ /g
Pesticide residues	Meets the requirements of USP General Chapter <561>	Aldrin and dieldrin NMT 0.05 mg/kg Other pesticides as per European Pharmacopoeia (PhEur) limits
Heavy Metals	NMT 20 µg per g (USP Method III <231>)	Lead NMT 10 mg/kg; Cadmium NMT 0.3 mg/kg

⁷² Secretaria General de la Comunidad Andina. Ficha: Uña de gato. In: LatinPharma Expo 2003 CD ROM. July 2003.

⁷³ Therapeutic Goods Administration (TGA). Australian Register of Therapeutic Goods (ARTG). Woden, Australia: Therapeutic Goods Administration: <http://www.tga.gov.au/docs/html/artg.htm>

⁷⁴ AGES PharMED Bundesamt für Sicherheit im Gesundheitswesen. Krallendorn® Kapseln Gebrauchsinformation. 2008. Available at: http://pharmaweb.ages.at/pharma_web/downloadDoc.jsf?docId=GIP94293628640

⁷⁵ Health Canada Drugs and Health Products Product Information. Rainforest Nutritionals Inc.: Resparagen® - Natural Product Number (NPN) 80005865. Ottawa, Ontario: Natural Health Products Directorate (NHPD).

⁷⁶ United States Pharmacopoeial Convention. Cat's Claw. In: United States Pharmacopeia 33rd Revision National Formulary 28th Edition (USP33-NF28). Rockville, MD: United States Pharmacopoeial Convention. 2010.

⁷⁷ World Health Organization (WHO). WHO Monographs on Selected Medicinal Plants, Volume 3. Geneva, Switzerland: World Health Organization. 2007;349-358. Available at: <http://apps.who.int/medicinedocs/index/assoc/s14213e/s14213e.pdf>

Production Scenario⁷⁸

Cat's claw stem bark is wild collected mainly from natural stands in natural forest areas of Peru. There is some cultivation for example in Iquitos, Peru. The plant is usually cut at the base and the vine is pulled down from the canopy. Cat's claw propagates naturally by seed.

Harvest: Before collection, it is necessary to obtain a permit from INRENA (Peruvian National Institute of Natural Resources), Ministry of Agriculture. Mature plants should be selected (3 years after planting by cuttings or 6 years by seeds). Harvest is carried out by cutting the rattan at 50cm to 1m from the base. This method allows for regeneration. The bark of the liana is then cut in segments of 1m.

Post-harvest: The bark strips are spread out on plastic or other clean surfaces and air dried which takes 3 to 5 days in dry weather and more than 5 days in the rainy season. After drying, the bark strips are tied into approximately 30 kg bundles for transport to markets. The dried bark is further processed by particle size reduction, for example to tea-bag-cut (TBC) for use in tea infusions or reduced to powder for use in capsules or tablets. The bark is also extracted with water, alcohol, water and alcohol, or other solvents in order to produce liquid or dry extracts.

Export: Permits are also required for cat's claw exports from Peru.

Conservation status

In 2002 there was a proposal to include cat's claw (*Uncaria tomentosa* and *U. guianensis*) in Appendix II of the *Convention on International Trade of Endangered Species* (CITES), which was not carried out.⁷⁹ According to United States Fish and Wildlife Service (USFWS 2002):

"The primary threat to cat's claw appears to be a sudden increase in potentially unsustainable collection to meet the demand for the plants' medicinal properties. Despite wide distribution, most of the commercial supply of cat's claw comes from Peru. In 1995, Peru exported over 700 tons of dried bark. As of 1999, cat's claw was in demand in more than 30 countries outside Peru, with the United States being the largest importer. The inner bark of cat's claw is reputed to have therapeutic properties that hold promise for the treatment of numerous conditions such as arthritis, cancers, tumors, and viral infections, including AIDS. Cat's claw has been and still is being harvested mainly from natural stands in high-elevation natural forest. The plant is usually cut at the base and the vine is pulled down from the canopy. Frequently, collectors cut down the tree that supports the cat's claw vine. Forestry officials and conservationists in Peru are encouraging people to propagate cat's claw. The Peruvian Government issued a Presidential Decree in 1999 that prohibits the export of unprocessed or mechanically processed cat's claw unless it is obtained from managed natural stocks or plantations. Studies aimed at producing cat's claw in vitro are ongoing. Little biological or trade information about cat's claw from other Central and South America countries is available. While we will continue to collect information and monitor this species, the United States does not intend to submit a proposal to include it in CITES Appendix II at COP12."

Selected Exporters of Cat's Claw Stem Bark and Extract

Brazilian and Peruvian suppliers of cat's claw bark raw materials:

- CABEX SA <http://www.cabexperu.com>
- CIFARMA SA cifarma@quimicasuiza.com
- Ecoandina <http://www.ecoandino.com>
- Empresa Agroindustrial del Perú S.A. <http://www.aipesa.com>
- Exportaciones Amazónicas Nativas S.R.L. <http://www.exportacionesamazonicas.com>
- Fito Perú Export Import S.A.C. <http://www.fitoperu.com>
- Matrix Investments SAC <http://www.matrixnatural.com>
- Panpacific Corporation S.A. <http://www.panpacificperu.com>

⁷⁸ **Sources:** (1) Secretaria General de la Comunidad Andina. Ficha: Uña de gato. In: LatinPharma Expo 2003 CD ROM. July 2003; (2) International Centre for Science and High Technology of the United Nations Industrial Development Organization (ICS-UNIDO) *Uncaria tomentosa*. In: ICS-UNIDO database on selected medicinal and aromatic plants.

⁷⁹ United States Fish and Wildlife Service (USFWS). Cat's claw (*Uncaria tomentosa* and *U. guianensis*)—Proposal for Inclusion in Appendix II. *Federal Register*. April 18, 2002;67(75):19224–19225.

- PEBANI Inversiones S.A. <http://www.pebani.com.pe>
- Peruvian Heritage S.A.C. <http://www.peruvianheritage.com>
- PROVER Brasil for Export LTDA <http://www.proverbrasil.com.br>
- Quimer Ervas e Especiarias <http://www.quimer.com.br>
- Santosflora <http://www.santosflora.com.br>
- Villa Andina S.A.C. <http://www.villaandina.com>

Brazilian and Peruvian Suppliers of cat's claw extracts:

- Cominper S.A.C. <http://www.cominper.com>
- Ecoandina <http://www.ecoandino.com>
- Grupo Centroflora <http://www.centroflora.com.br>
- Laboratorios Fitofarm E.I.R.L. <http://www.laboratoriosfitofarma.com>
- R. Muelle S.A. <http://www.rmuelle.com>
- Panpacific Corporation S.A. <http://www.panpacificperu.com>
- PROVER Brasil for Export LTDA <http://www.proverbrasil.com.br>
- Sanrisil <http://www.sanrisil.com.br>
- Santosflora <http://www.santosflora.com.br>
- Villa Andina S.A.C. <http://www.villaandina.com>
- Yerbalatina Phytoactives <http://www.yerbalatina.com>
- ZANACEUTICA E.I.R.L. <http://www.zana.com.pe>

Value and Volume of Peru's Cat's Claw Bark Exports

For the first seven months of 2010 (Jan-July), cat's claw exports from Peru were valued at about USD \$392,000; up 71.4% (in terms of value) and 63.9% (in terms of volume) compared to same period of previous year.⁸⁰ The United States of America (USA) accounted for 35% of the cat's claw exports, with a reported value of about USD \$137,000, 88% higher than in Jan-July 2009. Following the USA, France accounted for 17.7% of total exports, Russia Federation 8.4%, Germany 7.5%, Hong Kong 7% and Austria 4%. The three leading exporting companies were Native Amazonian Exports, Peruvian Nature and Amazon Nutrition. **Figure 1** (Source: SUNAT) shows cat's claw exports in value (US\$ FOB) and volume (net weight in kg) 2004 through 2010. Note: 2010 data is Jan-July only.

Figure 1: Peruvian exports of cat's claw / 2004-2010 / **Value** (USD FOB) / **Quantity** (kg)

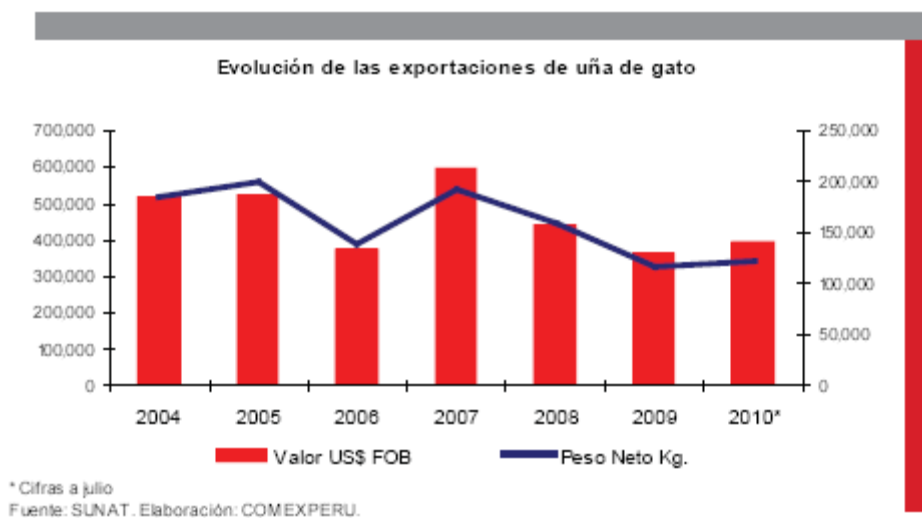


Table 2 shows quantity (kg) of Peruvian exports of cat's claw exports, 2005 through July 2010; in order of importing countries by 2009 predominance. In 2009, the top-five importing countries accounted for over 75% of export volume; United States, France, Chile, Japan and Mexico. **Table 3** shows examples of cat's claw finished products in selected export markets.

⁸⁰ COMEXPERU-Sociedad de Comercio Exterior del Perú. La uña de gato. *Seminario COMEXPERU*. 30 Aug - 05 Sept 2010;580:3: <http://www.comexperu.org.pe/archivos%5Csemanario%5Csemanario%20comexperu%20580.pdf>

Table 2: Peru Exports of Cat's Claw / 2005 – 2010 / Importing Countries / Quantity (kg)

	2005 (Jan-Dec)	2006 (Jan-Dec)	2007 (Jan-Dec)	2008 (Jan-Dec)	2009 (Jan-Dec)	2010 (Jan-Jul)
TOTAL	212,136.29	167,761.63	209,563.02	180,888.85	145,956.08	130,370.23
United States	115,403.65	58,120.41	57,074.32	50,647.86	56,393.72	46,959.41
France	27,451.79	31,182.21	52,297.12	53,710.89	22,082.23	31,304.71
Chile	11,948.00	12,857.56	12,149.71	15,325.18	11,938.00	8,315.40
Japan	8,046.39	9,396.67	16,712.86	9,089.60	10,481.62	6,575.01
México	0.00	4,341.01	8,122.13	9,466.29	8,728.20	30.02
Germany	15,409.14	17,406.44	20,698.60	13,245.05	7,329.77	14,136.59
Argentina	3,155.00	2,114.03	4,848.99	5,111.60	5,719.97	2,403.46
Spain	5,464.83	4,583.06	11,940.50	0.00	4,165.35	2,013.33
Paraguay	0.00	0.00	0.00	200.00	3,777.58	0.00
Czech Republic	3,159.91	2,228.23	2,002.71	2,875.85	2,548.53	1,013.09
Dominican Republic	0.00	0.00	1.45	0.00	1,895.09	0.00
Italy	3,576.22	646.25	932.32	921.29	1,717.52	2,177.48
Russian Federation	10,903.00	3,052.50	3,712.00	7,110.00	1,552.00	8,830.00
Venezuela	1,585.59	2,886.95	2,799.61	2,995.41	993.82	1,268.38
Hungary	604.01	828.14	573.32	736.63	719.86	271.06
Costa Rica	85.63	69.87	445.25	714.52	687.95	307.78
Ecuador	0.00	0.00	0.00	0.00	677.94	46.77
Guatemala	695.00	2,120.78	316.00	1,101.93	652.75	0.00
Ireland	889.00	1,002.00	0.00	417.85	589.00	1,241.37
United Kingdom	826.04	452.00	802.40	1,107.39	546.86	921.95
Brazil	339.40	10,429.17	1,279.00	1,824.00	517.00	116.00
Ukraine	0.00	1,183.00	1,201.94	1,617.00	509.00	6.13
Yugoslavia	0.00	181.09	179.00	0.00	298.20	0.00
Canada	167.20	450.20	1,081.30	812.65	254.73	267.37
Taiwan	0.50	182.00	0.00	546.00	218.09	224.00
Austria	1,098.29	457.85	2,395.11	419.00	203.00	779.01
Israel	0.00	32.43	1,519.00	55.00	137.00	0.00
Uruguay	35.00	39.00	81.00	0.00	119.00	0.00
Australia	478.46	528.00	275.60	225.00	106.92	0.00
Panama	8.57	66.42	3,791.39	299.73	74.39	81.57
El Salvador	10.00	0.00	0.00	78.65	71.95	0.00
Bolivia	722.49	534.67	0.00	0.00	66.69	810.00
Belgium	0.00	4.76	75.45	0.00	50.93	251.83
Slovakia	14.53	150.50	0.00	157.74	49.66	0.00
Netherlands	58.65	31.19	2,152.78	73.37	33.52	0.00
Netherland Antilles	0.00	112.44	102.16	3.37	31.24	18.51
Singapore	0.00	71.00	0.00	0.00	17.00	0.00

Note: 2010 data is estimated through July 2010

Source: SUNAT (for PROMPERU)

Table 3: Examples of some Cat's Claw Finished Products in Selected Export Markets

Country	Product Name	Dosage Form	Product Classification	License, Listing or Registration Number (Government Agency)	Marketing Authorization Holder
Australia	MediHerb Cat's Claw Complex	Dried extract (5:1) in tablets	Listed Medicine (for practitioner dispensing only)	164877 (Therapeutic Goods Administration)	Integria Healthcare Australia Pty Ltd
Canada	Reparagen®	Dried extract (10:1) in capsules	Licensed Natural Health Product (non-prescription drug)	80005865 (Natural Health Products Directorate)	Rainforest Nutritionals, Inc.
EU	Krallendorf® Kapseln	Standardized dried extract in capsules	Phytomedicine (available only in pharmacies with a doctor's prescription)	1–23628 (Austrian Agency for Health and Food Safety (AGES))	Immodal Pharmaka GmbH
USA	Saventaro®	Standardized dried extract in capsules	Herbal Dietary Supplement	Notification 11 March 2003 (Food and Drug Administration)	Enzymatic Therapy Natural Medicines

**BOTANICAL PRODUCT SPECIFICATIONS
Cat's Claw Stem Bark Extract
A Product of Peru**

PRODUCT	Powdered Cat's Claw Extract USP⁸¹
Botanical name	<i>Uncaria tomentosa</i> (Willd.) DC. (Fam. Rubiaceae)
Pharmacopoeial name	Extractum Radicis Uncariae tomentosae
Part used	Inner bark of the stems
Cultivated or Wild	Wild collected
Production	The extract is prepared from Cat's Claw USP by extraction with hydroalcoholic mixtures or other suitable solvents.
Drug to Extract Ratio	Between 4:1 and 6:1 (w/w)
Storage	Preserve in tight, light-resistant containers, and store at room temperature.
IDENTIFICATION	
Thin-layer chromatography (TLC)	As per Powdered Cat's Claw Extract USP monograph (USP <201>)
TESTS	
Loss on drying	NMT 10.0% (USP <731>)
Content of pentacyclic oxindole alkaloids and limit of tetracyclic oxindoles	Contains not less than 90.0 percent and not more than 110.0 percent of the labeled amount of pentacyclic oxindole alkaloids, calculated on the dried basis, as the sum of speciophylline, uncarine F, mitraphylline, isomitraphylline, pteropodine, and isopteropodine. It may contain suitable added substances.
Residual solvents	Meets the requirements for Botanical Extracts USP <565>
Pesticide residues	Meets the requirements for Botanical Extracts USP <565>
Heavy metals	NMT 10 µg per g (USP <231> Method II)
MICROBIAL CONTAMINATION	
Total aerobic microbial count	Acceptance criterion: NMT 10 ⁴ cfu/g (USP <2021>)
Total combined yeast/moulds count	Acceptance criterion: NMT 10 ³ CFU/g (USP <2021>)
<i>Escherichia coli</i>	Absent (USP <2021>)
<i>Salmonella</i>	Absent (USP <2021>)

⁸¹ United States Pharmacopoeial Convention. Powdered Cat's Claw Extract. In: *United States Pharmacopeia* 33rd Revision National Formulary 28th Edition (USP33-NF28). Rockville, MD: United States Pharmacopoeial Convention. 2010.

BOTANICAL RAW MATERIALS (indicative bulk prices)

Product	Botanical Name	Cult / Wild	Origin	USD/kg	Basis
Açaí fruit, powdered	<i>Euterpe oleracea</i>	Wild	Brazil	30.42	CIF EU
Boldo leaf, whole	<i>Peumus boldus</i>	Wild	Chile	3.51	CIF EU
Cat's claw bark, chips	<i>Uncaria tomentosa</i>	Wild	Peru	5.40	CIF EU
Guarana seed, whole	<i>Paulina cupana</i>	Cultivated	Brazil	10.92	CIF EU
Ipecac root, powdered	<i>Cephaelis ipecacuanha</i>	Wild	Brazil	133.38	CIF EU
Maca hypocotyle, chips	<i>Lepidium meyenii</i>	Cultivated	Peru	15.73	CIF EU
Maté leaf, cut & sifted	<i>Ilex paraguariensis</i>	Cultivated	Argentina, Brazil	2.73	CIF EU
Muirá puama bark, whole	<i>Ptychopetalum olacoides</i>	Wild	Brazil	4.36	CIF EU
Pau d'arco bark, whole	<i>Tabebuia impetiginosa</i>	Bi-product	Argentina, Brazil	3.25	CIF EU

BOTANICAL EXTRACTS (indicative bulk prices)

Product	Botanical Name	Standard	Origin	USD/kg	Basis
Açaí fruit dry extract	<i>Euterpe oleracea</i>	>0.5% Polyphenols	Brazil	30.02	FOB export
Boldo leaf dry extract	<i>Peumus boldus</i>	0.11-1.15% boldin HPLC	Brazil	16.57	FOB export
Camu camu fruit dry extract	<i>Myrciaria dubia</i>	>20% vitamin C	Brazil	18.98	FOB export
Cats Claw bark freeze dried extract	<i>Uncaria tomentosa</i>	1.0-1.5% total alkaloids	Brazil	53.49	FOB export
Catuaba bark dry extract	<i>Trichilia catigua</i>	>10% tannins (AOAC)	Brazil	19.73	FOB export
Guarana seed dry extract *	<i>Paulina cupana</i>	9-11% caffeine	Brazil	17	FOB export
Marapuama bark dry extract	<i>Ptychopetalum olacoides</i>	>3.5-4.5% total tannins	Brazil	48.36	FOB export
Maté leaf dry extract	<i>Ilex paraguariensis</i>	8.0-10% caffeine >0.15% theobromine	Brazil	20.76	FOB export
Passionflower herb dry extract	<i>Passiflora incarnata</i>	3.5-3.9% total flavonoids	Brazil	60.01	FOB export

* Certified organic

Quality Standards: Standards for some of the above listed botanicals and extracts may be published in the Farmacopea 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 21-23, 2010

FOOD INGREDIENTS SOUTH AMERICA 2010

Venue: Expo Center Norte, Sao Paulo Brasil
 Organizer: CMP Information, a division of United Business Media
 Contact: Joris Van Wijk, Managing Director AI, Tocantins, 75-16 ander-SI 1610 – Ed West Gate, 06455-020 – Alphaville, Barueri SP
 TEL: 11 4689 1935
 FAX: 11 4689 1926
 E-MAIL: fisa@cmpi.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.

September 22-24, 2010

EXPOALIMENTARIA PERU 2010

Venue: Cuartel General del Ejército - Pentagonito (General Army Headquarters), Lima
 Organizers: The Exporters' Association of Peru (ADEX), and Corferias del Pacifico, together with the Ministry of Agriculture and Promperu
 Contact: ADEX, Beatriz Tubino, TEL: (511) 6183300
 EMAIL: btubino@adexperu.org.pe
 WEB: <http://www.expoalimentariaperu.com>

While this is mainly a trade event for the food industry there will be some exhibitors of natural botanical ingredients and/or medicinal plants and extracts including:

November 3-5, 2010

BIOFACH AMERICA LATINA 2010

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
E-MAIL: Carla Alves e Alvaro Werneck expositor@planetaorganico.com.br
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, açai pulp, cacao powder, coffee, tea, dried fruits and fruit juice concentrates, nuts, honey, pollen and propolis.

August 16-17, 2011

HEALTH INGREDIENTS (Hi) SOUTH AMERICA SUMMIT

Venue: Novotel Center Norte, São Paulo Brazil
Organizer: United Business Media
Contact: Vincent Brain, Event Manager
TEL: +31 346 559 427
E-MAIL: Vincent.brain@ubm.com
WEB: <http://hi-events.com.br/en>

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.

**MEETINGS AND TRADE SHOWS
OCEANIC COUNTRIES**

February 10-21, 2011

53RD CONGRESS OF THE INTERNATIONAL HOP GROWERS CONVENTION

Venue: Hobart, Tasmania, Australia
Contact: Secretariat of the IGGC:
Dr. Martin Pavlovic, Malgajeva 18, SI-3000 Celije, Slovenia
TEL: +386 3 712 16 00
FAX: +386 3 712 16 20.
E-MAIL: martin.pavlovic@guest.arnes.si
WEB: <http://www.hmelj-giz.si/ihgcdoc/2011%20IHGC%20congress%20Australia%20-%20Program.pdf>

SPECIFICATIONS AVAILABLE FROM MNS BACK ISSUES

HERB OR EXTRACT	REGION	MNS EDITION
Acacia gummy exudate	Africa	MNS 24 – September 2007
Açaí fruit dry extract	South America	MNS 25 – December 2007
Althaea flower	China / Korea	MNS 29 – December 2008
Ambrette seed	India	MNS 29 – December 2008
American ginseng root PE	North America	MNS 5 – December 2002
American storax balsam	North America	MNS 24 – September 2007
Amla fruit PE	India	MNS 16 – September 2005
Andrographis herb PE	India	MNS 3 – June 2002
Arnica flower SE	Western Europe	MNS 1 – September 2001
Aronia fruit juice concentrate	Eastern Europe	MNS 25 – December 2007
Artemisia Essential Oil	India / Nepal	MNS 14 – March 2005
Artichoke leaf PE	Western Europe	MNS 6 – March 2003
Artichoke leaf	Africa	MNS 30 – March 2009
Asafetida oleo-gum-resin	India	MNS 24 – September 2007
Ashwagandha root	India	MNS 28 – September 2008
Ashwagandha root PE	India	MNS 5 – December 2002
American ginseng root	North America	MNS 28 – September 2008
Asian ginseng root PE	Japan	MNS 4 – September 2002
Bacopa herb PE	India	MNS 11 – June 2004
Baobab fruit PE	Africa	MNS 25 – September 2007
Benzoin tincture, compound	North America	MNS 23 - June 2007
Bilberry fruit	Eastern Europe	MNS 16 – September 2005
Birch leaf	Eastern Europe	MNS 21 – December 2006
Bitter orange fruit PE	China	MNS 21 – December 2006
Black cohosh extract USP	North America	MNS 36 – September 2010
Black cohosh rhizome PE	North America	MNS 4 – September 2002
Black currant dry extract	Western Europe	MNS 17 – December 2005
Bladderwrack thallus	Canada	MNS 20 – September 2006
Boldo leaf	South America	MNS 30 – March 2009
Boldo leaf dry extract	South America	MNS 34 – March 2010
Boswellia serrata PE	India	MNS 9 – December 2003
Buchu leaf	South Africa	MNS 33 – December 2009
Calendula tincture	Eastern Europe	MNS 23 – June 2007
California poppy herb	North America	MNS 18 – March 2006
Camphor, natural	China	MNS 27 – June 2008
Caralluma extract	India	MNS 21 – December 2006
Caraway fruit	Africa	MNS 35 – June 2010
Cascara sagrada dry extract	North America	MNS 34 – March 2010
Cat's claw bark dry extract	South America	MNS 26 – March 2008
Cat's claw extract USP	South America	MNS 36 – September 2010
Chá-de-bugre dry extract	South America	MNS 21 – December 2006
Chamomile flower	Africa	MNS 31 – June 2009
Chaste tree fruit	Eastern Europe	MNS 9 – December 2003
Chaste tree fruit	Africa	MNS 16 – September 2005
Chaste tree fruit extract	Western Europe	MNS 16 – September 2005
Chinese asafetida resin	China	MNS 24 – September 2007
Chinese cinnamon bark	China	MNS 19 – June 2006
Chinese hawthorn fruit PE	China	MNS 1: Sept 2001 / MNS 16: Sept 2005
Chinese lovage rhizome	China	MNS 36 – September 2010
Cinnamon bark PE	China	MNS 13 – December 2004
Citronella essential Oil	India, Sri Lanka	MNS 27 – June 2008
Clove bud tincture	India	MNS 23 – June 2007
Cocoa butter	South America	MNS 27 – June 2008
Cola nut	Africa	MNS 7 – June 2003
Cola nut dry extract	Western Europe	MNS 21 – December 2006

Coriander fruit	Europe	MNS 34 – March 2010
Coriander fruit essential oil	North America	MNS 12 – September 2004
Corydalis Yanhusuo tuber	China	MNS 18 – March 2006
Cottonseed oil	North America	MNS 29 – December 2008
Cranberry fruit dry conc	North America	MNS 16 – September 2005
Cranberry liquid preparation	North America	MNS 33 – December 2009
Cupuaçu fruit powder	South America	MNS 29 – December 2008
Damask rose essential Oil	Eastern Europe	MNS 17 – December 2005
Dandelion root	Europe	MNS 30 – March 2009
Danggui root PE	China	MNS 12 – September 2004
Devil's claw root PE	Western Europe	MNS 3 – June 2002
Devil's claw root tuber	Africa	MNS 36 – September 2010
Dhattura seed	India	MNS 32 – September 2009
Echinacea herb & root PE	North America	MNS 8 – September 2003
Echinacea root PE	Western Europe	MNS 12 – September 2004
Eleuthero root	Europe	MNS 28 – September 2008
Eleuthero root PE	China	MNS 11 – June 2004
English lavender flower	Europe	MNS 31 – June 2009
Ephedra herb	China	MNS 26 – March 2008
Epimedium herb PE	China	MNS 15 – June 2005
Eucalyptus oil	Europe	MNS 32 – September 2009
European vervain	Africa	MNS 15 – June 2005
Fennel fruit	Africa	MNS 9 – December 2003
Fennel fruit, sweet	Africa	MNS 34 – March 2010
Fenugreek seed	Africa	MNS 12 – September 2004
Fenugreek seed PE	India	MNS 12 – September 2004
Feverfew leaf PE	Western Europe	MNS 2 – March 2002
Fig fruit	Iran	MNS 33 – December 2009
Flax seed	North America	MNS 9 – December 2003
Garcinia fruit extract	India	MNS 15 – June 2005
Garlic bulb granules	North America	MNS 15 – June 2005
Garlic bulb PE	China	MNS 9 – December 2003
Garlic bulb PE	North America	MNS 22 – March 2007
Garlic oil macerate	Western Europe	MNS 22 – March 2007
Ginger rhizome	China	MNS 35 – June 2010
Ginger rhizome PE	China	MNS 4 – September 2002
Ginkgo leaf PE	Japan	MNS 5 – December 2002
Goldenseal rhizome	North America	MNS 2 – March 2002
Gotu kola herb PE	India	MNS 4 – September 2002
Gotu kola herb PE	Africa	MNS 27 – June 2008
Grape fruit PE	Eastern Europe	MNS 5 – December 2002
Greater celandine herb	Eastern Europe	MNS 18 – March 2006
Greater galangal rhizome	India	MNS 36 – September 2010
Green tea leaf PE	China	MNS 2 – March 2002
Green tea leaf PE	China	MNS 23 – June 2007
Griffonia seed	Africa	MNS 8 – September 2003
Guarana seed PE	Western Europe	MNS 9 – December 2003
Guar gum	India	MNS 35 – June 2010
Guggul resin PE	India	MNS 1: Sept 2001 / MNS 6: March 2003
Gynostemma herb PE	China	MNS 10 – March 2004
Henna leaf	Africa	MNS 13 – December 2004
Hibiscus flower	Africa	MNS 17 – December 2005
Holarrhena bark / root	Africa	MNS 14 – March 2005
Hoodia gordonii extract	Africa	MNS 21 – December 2006
Hop strobile	Europe	MNS 35 – June 2010
Hop strobile PE	North America	MNS 10 – March 2004
Iceland moss	Eastern Europe	MNS 20 – September 2006
Indian frankincense extract	Eastern Europe	MNS 24 – September 2007

Ivy leaf PE	Western Europe	MNS 13 – December 2004
Jamaica quassia stem wood	North America	MNS 32 – September 2009
Juniper fruit Essential Oil	Eastern Europe	MNS 10 – March 2004
Juniper tar	Europe	MNS 27 – June 2008
Khella fruit	Africa	MNS 26 – March 2008
Kohki leaf	Japan	MNS 3 – June 2002
Labdanum gum resinoid	Western Europe	MNS 24 – September 2007
Lavender flower essential oil	Eastern Europe	MNS 12 – September 2004
Lemon balm leaf PE	Western Europe	MNS 7 – June 2003
Lemon peel essential oil	North America	MNS 35 – June 2010
Lemon verbena leaf	South America	MNS 33 – December 2009
Licorice root PE	China	MNS 3 – June 2002
Licorice root	Other Asian Countries	MNS 30 – March 2009
Licorice root PE	Japan	MNS 1 – September 2001
Long-stamen onion bulb	China	MNS 22 – March 2007
Maca hypocotyl PE	Peru	MNS 17 – December 2005
Maritime pine bark	Western Europe	MNS 19- June 2006
Marshmallow root	Europe	MNS 29 – December 2008
Maté leaf	South America	MNS 35 – June 2010
Maté leaf PE	Western Europe	MNS 8 – September 2003
Meadowsweet herb	Eastern Europe	MNS 13 – December 2004
Milk thistle fruit PE	Eastern Europe	MNS 1: September 2001 / MNS 7: June 2003
Molokhia leaf	Africa	MNS 29 – December 2008
Myrrh tincture	Africa	MNS 23 – June 2007
Neem leaf PE	India	MNS 7 – June 2003
Nettle leaf	Europe	MNS 33: – Dec 2009 / MNS 36: Sept 2010
Nettle root	Eastern Europe	MNS 15 – June 2005
Nettle root PE	Western Europe	MNS 4 – September 2002
Nigella seed	India	MNS 26 – March 2008
Noni fruit PE	India	MNS 25 – December 2007
Olive leaf PE	Western Europe	MNS 11 – June 2004
Onion essential oil	Africa	MNS 22 - March 2007
Onion juice concentrate, pwd	Eastern Europe	MNS 22 – March 2007
Onion oleoresin	India	MNS 22 – March 2007
Opium poppy latex	India	MNS 18 – March 2006
Oregon grape root	North America	MNS 30 – March 2009
Parmelia lichen extract	India / Nepal	MNS 20 – September 2006
Passionflower	North America	MNS 31 – June 2009
Passionflower PE	South America	MNS 31 – June 2009
Peony root	Japan	MNS 2 – March 2002
Pepper fruit PE	India	MNS 13 – December 2004
Peppermint leaf Essential Oil	North America	MNS 11 – June 2004
Pleurisy root	North America	MNS 26 – March 2008
Pomegranate fruit PE	Western Europe	MNS 14 – March 2005
Psyllium husk	India	MNS 10 – March 2004
Pygeum bark	Africa	MNS 19 – June 2006
Pyrethrum flower extract	Africa	MNS 32 – September 2009
Red clover herb PE	North America	MNS 6 – March 2003
Red poppy extract	Western Europe	MNS 18 – March 2006
Red poppy petals	Africa	MNS 18 – March 2006
Reishi mushroom PE	China	MNS 5 – December 2002
Rhatany root FE	North America	MNS 14 – March 2005
Rhatany tincture	Western Europe	MNS 23 – June 2007
Rhodiola root	China	MNS 28 – September 2008
Rhubarb root dry extract	China	MNS 34 – March 2010
Rooibos leaf PE	Western Europe	MNS 15 – June 2005
Rosemary leaf Essent Oil	Africa	MNS 10 – March 2004
Rosemary leaf PE	North America	MNS 1 - September 2001

Safed musli root	India	MNS 17 – December 2005
Saffron style and stigma	India	MNS 31 – June 2009
Sage leaf	Eastern Europe	MNS 8 – September 2003
Saigon cinnamon bark	Viet Nam	MNS 33 – December 2009
Sandalwood heart wood	India	MNS 19 – June 2006
Sargassum thallus	China	MNS 20 – September 2006
Saw palmetto fruit SE	North America	MNS 3 – June 2002
Schisandra fruit PE	China	MNS 6 – March 2003
Schisandra fruit, Southern	China	MNS 30 – March 2009
Seabuckthorn fruit PE	China	MNS 7 – June 2003
Seabuckthorn pulp extract	Western Europe	MNS 25- December 2007
Senna leaf dry extract	India	MNS 34 – March 2010
Senna pod	Africa	MNS 6 – March 2003
Senna pod & leaf PE	India	MNS 8 – September 2003
Slippery elm bark	North America	MNS 19 – June 2006
Soursop leaf PE	South America	MNS 32 – September 2009
Spearmint leaf	Africa	MNS 11 – June 2004
St. John's wort herb	China	MNS 31 – June 2009
St. John's wort herb PE	Western Europe	MNS 10 – March 2004
Stemona root	China	MNS 32 – September 2009
Suma root	South America	MNS 28 – September 2008
Sutherlandia herb	Africa	MNS 28 – September 2008
Sweet wormwood herb EO	Eastern Europe	MNS 14 – March 2005
Sweet wormwood leaf PE	China	MNS 14 – March 2005
Thyme herb	Europe	MNS 26 – March 2008
Tribulus fruit PE	China	MNS 17 - December 2005
Tribulus fruit PE	India	MNS 2 – March 2002
Tribulus root PE	Eastern Europe	MNS 6 – March 2003
Usnea lichen extract	Western Europe	MNS 20 – September 2006
Uva ursi leaf PE	Eastern Europe	MNS 2 – March 2002
Valerian root	Eastern Europe	MNS 3 – June 2002
Valerian root PE	Eastern Europe	MNS 4 – September 2002
White tea leaf PE	China	MNS 8 – September 2003
Wild cherry bark FE	North America	MNS 13 – December 2004
Wild yam root PE	North America	MNS 7 – June 2003
Willow bark	Eastern Europe	MNS 19 – June 2006
Willow bark PE	Western Europe	MNS 5 – December 2002
Witch hazel	North America	MNS 27 – June 2008
Wolfberry PE	China	MNS 25 – December 2007
Yarrow herb Essential Oil	Eastern Europe	MNS 11 – June 2004

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>

- EcoCert Fair Trade Standards: <http://www.ecocert.com/IMG/pdf/EFT-requirements.pdf>

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

- Equal Exchange Principles for Domestic Fair Trade: <http://www.equalexchange.coop/dftfilesv2/dftprinciplesflyer.pdf>

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

- FairWild Standard (Version 2.0): <http://www.fairwild.org/publication-downloads/fairwild-standard-ver-20/FairWild-Standard-V2.pdf>
- FairWild Standard (Version 2.0 Performance Indicators): <http://www.fairwild.org/publication-downloads/fairwild-standard-ver-20/FairWild-Standard-Indicators-V2.pdf>

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

- FairTrade Standards for Herbs and Spices for Small Producers' Organizations: http://www.fairtrade.net/fileadmin/user_upload/content/2009/standards/documents/July09_EN_Herbs_and_Spices_standard_SPO.pdf
- FairTrade Standards for Tea for Small Producers' Organizations (Version 15.09.2010): http://www.fairtrade.net/fileadmin/user_upload/content/2009/standards/documents/2010-09-28_EN_Tea_SPO.pdf
- FairTrade Standards for Tea for Hired Labour (Version 15.09.2010): http://www.fairtrade.net/fileadmin/user_upload/content/2009/standards/documents/2010-09-28_EN_Tea_HL.pdf

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

- FSC International Standard: FSC Principles and Criteria for Forest Stewardship: http://www.fsc.org/fileadmin/web-data/public/document_center/international_FSC_policies/standards/FSC_STD_01_001_V4_0_EN_FSC_Principles_and_Criteria.pdf
- FSC Guidelines for Certification Bodies: http://www.fsc.org/fileadmin/web-data/public/document_center/international_FSC_policies/guidance_documents/FSC-GUI-20-200_EN_FSC_Guidelines_for_Certification_Bodies_2005.pdf

Institute for Market Ecology: <http://www.imo.ch>

- IMO Social & FairTrade Certification Programme: http://www.fairforlife.net/logicio/client/fairforlife/file/IMO_SFT_Programme_Version3_Feb08.pdf

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:
http://www.ibd.com.br/downloads/dirleg/Diretrizes/8_1_3_IBD_Diretriz_IBD_Ecosocial_English_8thEdition_2009.pdf

NatureLife International Foundation for Environment, Education and Sustainability:

<http://www.sun-cert.com>

- S.U.N. Certificate: <http://www.sun-cert.com/application.aspx>

Rainforest Alliance: <http://www.rainforest-alliance.org>

- Sustainable Agriculture Standard: http://www.rainforest-alliance.org/agriculture/documents/sust_ag_standard.pdf

Soil Association: <http://www.soilassociation.org>

- Soil Association Ethical Trade Standards:
<http://www.soilassociation.org/LinkClick.aspx?fileticket=jCN07%2bOg79I%3d&tabid=353>

Union for Ethical BioTrade: <http://www.uebt.ch>

- Guidance for the application of the BioTrade Verification Framework for Native Natural Ingredients: http://www.uebt.ch/dl/guidance-VF-v3_0-20080728b.pdf
- Guidelines for the Development and Implementation of Management Plans for Wild-collected Plant Species used by Organizations Working with Natural Ingredients:
http://www.biotrade.org/biotrade3/unctad_ditc_ted_2007_8_English_final_with%20coverpage.PDF
- BioTrade Verification Framework for Native Natural Ingredients: [http://www.uebt.ch/dl/Engl-UEBT-Nat-Ingredients-Ver-framework-2007-09-20\(rev1\)b.pdf](http://www.uebt.ch/dl/Engl-UEBT-Nat-Ingredients-Ver-framework-2007-09-20(rev1)b.pdf)
- UNCTAD BioTrade Initiative BioTrade Principles and Criteria: http://www.biotrade.org/BTFP/BTFP-docs/Working_docs/UNCTAD_BT_PC_en.pdf

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:

http://www.cofta.org/en/en/members_listing.asp

EcoCert Fair Trade (EFT) certified products and operators:

http://www.ecocert.com/IMG/pdf/20091103_Liste_produits_ESR.pdf

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 Operators:

<http://www.ecosocialnet.com/index2.php?area=projetos&lg=en>

IMO Social & Fairtrade Certification Programme Certified Operators:

http://www.fairforlife.net/logicio/pmws/indexDOM.php?client_id=fairforlife&page_id=operators&lang_iso639=en

PhytoTrade Africa members list:

<http://www.phytradeafrica.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/ParticipantsAndStakeholders/search_participant.html

UTZ Certified Tea Producers list:

<http://www.utzcertified.org/index.php?pageID=227>

World Fair Trade Organization (WFTO) members list:

http://www.wfto.com/index.php?option=com_content&task=view&id=6&Itemid=37

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

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-MAIL: drfarouk@elshobaki.com
WEB: <http://www.esmap.org.eg>

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, E-MAIL: massociation@mpcpegypt.com
WEB: <http://www.mpcpegypt.com/faq.html>

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, Tel: 02/5250310 / FAX: 02/6329253, Mobile: 012/3236751,
E-MAIL: Focalpoint_mhpaarinena@yahoo.com
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.eg
WEB: <http://www.upehc.org>

ETHIOPIA

Ethiopian Pulses, Oil Seeds and Spices Processors Exporters' Association (EPOSPEA), Elias Genete, P.O. Box 8686 Addis Ababa. TEL: +251-0911(670040)
E-MAIL: agroprom@ethionet.et or epospe.association@ethionet.et

GHANA

Agribusiness in Sustainable Natural African Plant Products (ASNAPP), P.M.B. (18) Kanda, Accra H/NO C 205/29, Mempeasem, East Legon, Accra, Mr. Dan Acquaye. TEL: +233 21 505-617/ FAX: +233 21505-617, E-MAIL: asnappwest@yahoo.com
WEB: <http://www.asnapp.org>

Botanical Products Association of Ghana (BOTPAG)

WEB: http://www.asnapp.org.za/index.php?option=com_content&task=view&id=89&Itemid=78

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: info@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, E-MAIL: contact@nohaleur.com; 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)37.68.6612
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NAMIBIA

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WEB: <http://www.criaasadc.org/devilsclaw.htm>

Hoodia Growers Association of Namibia (HOGRAN). Windhoek, Namibia, Jörn Miller
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NIGERIA

Herb Sellers Association of Nigeria, Mrs. Quincy Ayodele

REUNION

Association pour les Plantes Aromatiques et Médicinales 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

South African Hoodia Growers Association (SAHGA), Robby Gass, TEL: 083.290.7691, E-MAIL: zizamele@telkomsa.net, robby@zizamele-natural-health.com, or Volker@miros.co.za; Adolf Joubert, BZH Exporters and Importers, E-MAIL: adolf@bzh.co.za

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
WEB: <http://cformatpro.nuxit.net/oppam/>

TUNISIA

Association Tunisienne des Plantes Medicinales, 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@phytotradeafrica.com
WEB: <http://www.sanprota.com>

ASIA

BANGLADESH

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

Bangladesh Herbal Products Manufactories 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

CHINA

China Chamber of Commerce of Medicines & Health Products Importers & Exporters (CCCMHPIE), 8th Floor, 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>

China Essential Oils, Aroma & Spice Trade Association (CHINAEASA), under China Chamber of Commerce for Import / Export of Foodstuffs, Native Produce and Animal By-products (CFNA), No.21 XiTangZi Lane, DongCheng District, Beijing, P.R. China 100006. TEL: +86-10-65132567, +86-10-65132390 / FAX: +86-10-65227911, +86-10-65139064, E-MAIL: w@cccfn.org.cn

International Centre of Research and Training on Seabuckthorn (ICRTS)

WEB: <http://www.icrts.org>.

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>

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: chamfmail@gmail.com, mdhorganic@gmail.com
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Essential Oil Association of India, 301, 4832/24 Ansari Road, Darya Ganj, New Delhi, 110002. TEL: +910 11-325-0322; / FAX: +910 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: 91-0413-2346950, 3090491
FAX: 91-0413-346950, E-MAIL: fihi@fihionline.com / bkurup@fihionline.com
WEB: <http://www.fihionline.com/aboutus.htm>

Health Foods and Dietary Supplements Association (HADSA), 1011 Dalamal House, Nariman Point, Mumbai – 400 021, India. Ms. Dipali Mahadik TEL: 91 022 30089463/22872557/58/59 ext. 428
FAX: 91 022 22045309. E-MAIL: dipali.hadsa@gmail.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 Prakriya Sangh, Dr. S.G.Patil, President, 120/9, Pashan Flats, Behind Lenyadri Society, Pashan Soos Road, Pune 411 021. TEL: 020-25882263

Malabar Herbs & Musli Growers Society (Regd), Abraham Kurian, Treasurer, T.C.4/1082, Kripa Bhavan, R.P.Lane, A-7, Kawadiar. P.O, Trivandrum Dist; Kerala. 695003. TEL: +91.471.5538863, +91.471.2437185 / MOBILE: +91.989.5187185 / FAX: +91.471.2316314
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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
WEB: <http://www.mapscon.com>

Medicinal and Aromatic Plants Program in Asia (MAPPA), Madhav Karki, Ph.D., IDRC/SARO, 208 Jor Bagh Rd, New Delhi, 110 003, India. TEL: (91-11) 24619411 ext. 104 / FAX: (91-11) 24622707
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WEB: <http://www.mappa-asia.org>

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
WEB: <http://nmpb.nic.in/index.htm>

Pharmaceuticals Export Promotion Council (Pharmexcil) H.O.: 101, Aditya Trade Centre, Ameerpret, Hyderabad – 500038, India. TEL: 040-23735462 / 23735466 / FAX: 91.40.23735464
E-MAIL: info@pharmexcil.com
WEB: <http://www.pharmexcil.com>

Samagra Adivasi Medicinal Plants Development Association (SAMPDA) D.N.K. Colony Kondagaon – 494226, Baster (Chhattisgarh), India TEL: (07786) 242506 / FAX: (07786) 242980
E-MAIL: info@sampda.org
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: sfea@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: 91-484-2333610-616 / 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

Agribusiness Club (ABC), Wisma Nusantara Lt 23, Jl M.H. Thamrin 59, Jakarta Pusat 10350, Indonesia. TEL: 021 336426 / FAX: 021 3916944.

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

Asosiasi Eksportir Lada (AELI) (The Indonesian Pepper Exporter Association), Kertaniaga Building Lt 2, Jl. Roa Malaka Selatan 35, Jakarta 11230. TEL: 021 6926401, 021 39001566 / FAX: 021 6926401.

Asosiasi Eksportir Pala Indonesia (AEPA) (The Indonesia Nutmeg Exporters Association), Jl. Hayam Wuruk 103-104 Jakarta Barat 11160. TEL: 021 6297539, 021 6292508 / FAX: 021 6297432.

Asosiasi Eksportir PaniliIndonesia (AEPI) (The Indonesia Vanilla Exporters Association), D/a Persh. Daerah Prop. Bali, Jl. W.R. Supratman Denpasar. TEL: 0361 463332 / FAX: 0361 462245.

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), West Asia Regional Program (WARP), P. O. Box 950764 Amman 11195 Jordan. TEL: _962 6 5525750
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MALAYSIA

Malaysian Herbal Corporation (MHC), Herbal Plaza, 15 Jalan Medan Tuanku 1, Medan Tuanku 50300 Kuala Lumpur, Malaysia. TEL: 603 2697 6620 / FAX: 603 2697 6621
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NEPAL

Herbs & NTFP Coordination Committee of the **Asia Network for Sustainable Agriculture and Bioresources (ANSAB)**, Mr. Bishma 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>

Nepal Herbs and Herbal Products Association (NEHHPA), Bhaweshwor Das, GPO Box No 8941, Dhumbarahi, Kathmandu, Nepal, TEL: 977-1-428773, 4437827, FAX: 977-1-4437827
WEB: <http://www.nepalherbs.org>

PHILIPPINES

Chamber of Herbal Industries of the Philippines (CHIP), Riza Gatdula-Lumontad, CHIP Secretariat Executive Director. 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
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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>

Singapore Chinese Drug Importers & Exporters Guild, 2 Alexandra Road, #02-07 Delta House, Singapore 159919. TEL: (65) 6278 2270 / FAX: (65) 6275 4900. E-MAIL: davetang@pacific.net.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
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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
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Sa Pa Indigenous Medicinal Plants Association (SIMPA), Ta Phin village, Ta Phin town, Sapa, Viet Nam

EUROPE

ALBANIA

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

AUSTRIA

European Herb Growers Association (EHGA), Institute for Applied Botany, University of Veterinary Medicine, 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/index.htm>

Österreichischen Verbandes für Heil- und Gewürzpflanzen (AGV) (Austrian Association for Medicinal and Herbal Horticulture), AGV Chairwoman Ms. Agnes Schierhuber
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BELGIUM

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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, Branislava 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
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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
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FINLAND

Arctic Flavours Association (AFA), Kauppakatu 20, 89600 SUOMUSSALMI, Finland. TEL: +358 861 555 590, +358 861 555 591 / FAX: +358 861 555 592, E-MAIL: info@arctic-flavours.fi or simo.moisio@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-Forêt

Association Internationale pour le Développement des Gommés 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 john@jrlupien.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
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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@lkip.bayern.de

WEB: <http://www.kraeuteranbau.de>

European Federation of Essential Oils (EFEO), EFEO Secretariat, Sonninstrasse 28, 20097
Hamburg, Germany. TEL: +49 40 23 60 1615 / FAX: +49 40 23 60 1610

E-MAIL: ydc@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/>

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

WEB: <http://www.agrimed.de/WEnglisch.htm>

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>

The Association For the International Promotion of Gums (AIPG), Secretariat at WGA Hamburg
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FAX: +49 (0) 40 23 60 16 10, E-MAIL: aipg@wga-hh.de

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Verein für Arznei- und Gewürzpflanzen, SALUPLANTA e.V., Prof.-Oberdorf-Siedlung 16
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WEB: <http://www.saluplanta.de/>

WKF Wirtschaftsvereinigung Kräuter- und Fruchtee e.V., Sonninstrasse 28, 4, OG D-20097,
Hamburg City Süd. TEL: +49-40-23 601 619 / FAX: +49-40-23 60 16 10/11/40, 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

Federazione Italiana dei Produttori di Piante Officinali (FIPPO), c/o Istituto Sperimentale per l'Assestamento Forestale e per l'Alpicoltura (ISAFa), Piazza Nicolini, 6, 38050 Villazzano di Trento. TEL: 0461 381141 / FAX: 0461 381131, E-MAIL: fippo@pianteofficinali.org
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 – 065866409 / 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>

LATVIA

Latvian Herb Growers Association, Raina Str.6-49 Kraslava LV-5601
E-MAIL ivars@kraslava.apollo.lv

MACEDONIA

Association “Herba-M” (Macedonian Association of Collectors, Producers and Processors of Medicinal and Aromatic Plants, Forest Products and Mushrooms), Mr. Pavle Kolovski, Prvomajska 9 No 10, 1000 Skopje. TEL: +389 (22) 46 12 18; +389 2 2465 953 / FAX: +389 (22) 46 59 54; +389 2 2469 472, E-MAIL: herbam@konimex.com.mk

POLAND

Polski Komitet Zielarski (Polish Herbal Committee), BIURO ZARZĄDU GŁÓWNEGO PKZ 61-707 Poznań, ul. Libelta 27. TEL: 61/665 95 40 Ext. #55
WEB: <http://www.pkz.pl>

ROMANIA

Planta Romanica, Dr. Ovidiu Bojor, Str. George Enescu, nr.27-29, sector 1, Bucuresti. TEL: +40 (21) 3154783 / FAX: +40 (21) 3100025, E-MAIL: ovidiu.bojor@home.ro

Romanian Association of Medicinal & Aromatic Plants Growers & Manufacturers (ROPAM Association), Dr. Lazurca Dumitru, G. Moroianu 176 Sacele, Brasov, cod 505600. TEL/FAX: +40(268)273766, E-MAIL: dlazurca@deltanet.ro

SERBIA AND MONTENEGRO

Association for Medicinal and Aromatic Plants of Southeast European Countries (AMAPSEEC), Tadeuša Koščuška 1, 11000 Belgrade Serbia. TEL: +381 3031 653. E-MAIL: office@amapseec.org
WEB: <http://www.amapseec.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 (AFEPADI), 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>

UNITED KINGDOM

Aromatherapy Trade Council (ATC), P.O. Box 387, Ipswich IP2 9AN. TEL/FAX: 01473 603630
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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), Gafta House, 6 Chapel Place, Rivington Street, London EC2A 3SH. 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
WEB: <http://www.fosfa.org/>

The International Association of Seed Crushers (IASC), P.O. Box 277A Surbiton KT7 OLZ United Kingdom. Angela Bowden, Secretary General. TEL: +44 (0) 20 8398 5955 / FAX: +44 (0) 20 8398 6010, E-MAIL: angela.bowden@iascuk.org
WEB: <http://www.iasc-oils.org>

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
WEB: <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
WEB: <http://www.anhan.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>

The Associated Ginseng Growers of British Columbia (TAGG of BC), Box 241, Vernon, B.C. V1T 6M2 Canada. TEL: (250) 545-4737 / FAX: (250) 545-0479, E-MAIL: info@bcginsenggrowers.com
WEB: <http://www.bcginsenggrowers.com>

British Columbia Herb Growers Association (BCHGA), 998 Skeena Drive, Kelowna, B.C. V1V 2K7. TEL/FAX: 604.504.5990, E-MAIL: info@bcherbgrowers.com
WEB: <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
WEB: <http://www.saskherbspice.org/CHSNC>

Canadian Spice Association (CSA), 160 Eglinton Avenue East, Suite 300, Toronto ON M4P 3B5.
TEL: 416 595 5333 ext.41 / FAX: 416 595 8226. E-MAIL: info@canadianspiceassociation.com
WEB: <http://www.canadianspiceassociation.com/>

Certified Organic Growers Association of BC, 3402 32nd Street, Vernon BC V1T 9G1.
TEL: 250 260 4429 / FAX: 250 260 4436. E-MAIL: office@certifiedorganic.bc.ca
WEB: <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
WEB: <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

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: admin@ginsenggrowers.com
WEB: <http://www.ginsengontario.com>

Quebec Seabuckthorn Growers' Association (APAQ), 30, rue Sainte-Marguerite, Beaupré (Qc)
G0A 1E0, CANADA, TEL: 418 827 1659, E-MAIL: info@argousier.qc.ca
WEB: <http://www.argousier.qc.ca/eng/lassociation-apaq/history-and-mission.asp>

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: lonewolf@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, E-MAIL: wcdnherb@telusplanet.net

JAMAICA

Jamaican Herbal Business Association (JHBA), a local chapter of the Caribbean Herbal Business
Association, Dr. Diane Robertson, President. E-MAIL: docdee@hotmail.com
WEB: <http://www.caribbeanherbs.org>

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@iicacarc.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, 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: ahpa@ahpa.org
WEB: <http://www.ahpa.org>

American Spice Trade Association (ASTA), 2025 M Street, NW, Suite 800, Washington, DC 20036. TEL: 202 367 1127. 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. TEL: 509 585 5460 / FAX: 509 585 2671. E-MAIL: agmgt@agmgt.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.usahops.org>

Hop Growers of Washington (HGW), PO Box 9218 Yakima, Washington 98909. TEL: 509.453-4749
FAX: 509.457.8581, E-MAIL: ann@wahops.org

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 5881174
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.ipower.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.ncherbs.net/ncha>

Northwest Ginseng Growers Association (NGGA), 4820 NE 306th Circle, La Center, Washington 98629. TEL: 360 263 7757 / CELL: 503 819 8934
WEB: <http://www.nwginseng.org/home.html>

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>

World Cocoa Foundation (WCF), 1411 K Street, NW Suite 1300, Washington D.C. 20005. TEL: 202

737 7870 / FAX: 202 737 7832, E-MAIL: wcf@worldcocoa.org

WEB: <http://www.worldcocoafoundation.org>

OCEANIA

AUSTRALIA

Australian Ginseng Growers Association (AGGA), P.O. Box 66, Huonville, TAS 7109.

TEL: +61 (0) 419 495 936, FAX: by arrangement, E-MAIL: info@ginseng.org.au

WEB: <http://www.ginseng.org.au>

The Australian Lavender Growers' Association Inc (TALGA), The Secretary TALGA Inc, PO Box

1296, Richmond North Victoria, 3121, Australia. E-MAIL: secretary@talga.com.au

WEB: <http://www.talga.com>

Australian Tea Tree Industry Association (ATTIA), PO Box 1990, Kingscliff NSW 2487.

TEL: +61 (02) 66742925 / FAX: +61 (02) 66742475, E-MAIL: enquiries@teatree.org.au

WEB: <http://www.teatree.org.au>

FIJI

Pacific Islands Noni Association (PINA), P.O. Box 516, Lautoka, Fiji – Islands

WEB: <http://www.pina.ws>

SOUTH AMERICA

BOLIVIA

Sociedad Boliviana de Medicina Tradicional (SOBOMETRA), Mr. Walter Alvarez, Pasaje González #140, La Paz. TEL: +591 2 331724 / FAX: +591 2 313783

BRAZIL

Associação Brasileira das Empresas do Setor Fitoterápico, Suplemento Alimentar e de Promoção da Saúde (ABIFISA), TEL/FAX: (41) 3254 3040 / E-MAIL: abifisa@abifisa.org.br

WEB: <http://www.abifisa.org.br>

COLUMBIA

Nativa Trade Association for Natural Ingredients: E-MAIL: ingredientesnaturales@gmail.com

ECUADOR

Asociación Agroartesanal de Productores de plantas secas medicinales del Ecuador (AAPPSME), Contact: Ing. Orlando Cadme or Srta. Oliva Chunchu, Ramon Pinto entre Diez de Agosto y Jose Antonio Eguiguren. TEL/FAX: ++593 7 2 583 173

E-MAIL: orlandocadme@latinmail.com

Asociación de Productores de Plantas Medicinales del Chimborazo Jambi Kiwa, Km 1 Via Santa Cruz, Parroquia y Aruquies, Riobamba-Ecuador. TEL: ++593.9.902645 / FAX: ++593.2.951026

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Carabotija Association of Producers of Medicinal Plants, Ms. María Resfa Guatemal, No. 1 Barrio Carabotija, Olmedo, Cayambe-Ecuador. TEL: ++593.2.2115064/2362240
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PERU

Asociación de Agroindustriales de Maca y Productos Andinos del Altiplano de Junín, Perú.

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Asociación de Productores de Plantas Medicinales Ecológicas de La Unión - PERÚ (APROPLAME), Régulo Chirinos, E-MAIL: aproplame@aedes.com.pe
WEB: <http://www.cotahuasiarequipa.com/aproplame>

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
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