
BULLETIN
MNS March 2011

MEDICINAL PLANTS AND EXTRACTS
MARKET NEWS SERVICE (MNS)
QUARTERLY EDITION



Disclaimer

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

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

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

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

Prepared by Josef Brinckmann & Associates
ITC Consultant

Contacts for Medicinal Plants & Extracts Information Providers:

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

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

Cover Picture:

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

EDITORS NOTE

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

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

Coverage: Issue No. 38 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.
4. **INDIA and other Asian Countries:** Afghanistan, Armenia, Azerbaijan, Bahrain, Bangladesh, Bhutan, Georgia, India, Iran, Iraq, Israel, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Maldives, Oman, Nepal, Pakistan, Palestine, Qatar, Saudi Arabia, Sri Lanka, Syria, Tajikistan, Turkey, Turkmenistan, United Arab Emirates, Uzbekistan, and Yemen.
5. **NORTH AMERICA:** Antigua and Barbuda, Bahamas, Barbados, Belize, Canada, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Granada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, and the United States of America.
6. **SOUTH AMERICA:** Argentina, Bolivia, Brazil, Chile, 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".

In the pricing tables, if a botanical comes to market from both cultivation and wild collection, the order used (Cult/Wild or Wild/Cult) is based on the predominant method of harvest.

Great care should be taken when comparing prices of medicinal plants and extracts from differing origins as form structure and biochemical activity may differ considerably between very similar products.

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

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

Market News Service (MNS)
International Trade Centre UNCTAD/WTO
Palais des Nations, 1211 Geneva 10, Switzerland
Tel: +4122 730 01 11 Fax: +4122 730 05 72
E-MAIL for general enquiries mns@intracen.org
E-MAIL for subscriptions: mns-subs@intracen.org
Web: <http://www.intracen.org/mns>

SPECIAL FEATURES

Issue No. 38 includes six regional reviews each with a special focus on supply chain risk and increasing uncertainty resulting from one or more factors including climate change, major natural disasters, geopolitical unrest, changing socio-economic conditions, and development causing habitat loss, among other factors. Each section will identify some known supply chain risks of the region, identify the region's main high-volume and/or high-value medicinal plants for export, whether these are cultivated or wild collected, and specify which main countries the plant is produced in. In future editions of the MNS we will interview producers in countries of origin as well as suppliers in destination markets to learn about new strategies for mitigating and spreading risk for a sustainable medicinal plant supply chain.

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 fruit ingredients that are used as components of herbal medicinal products and natural health products: **Milk thistle fruit** (Africa), **Japanese honeysuckle leaf and stem** (China, Japan, Korea), **European elder flower** (Europe), **Myrrh gum resin** (Western Asia - Yemen), **Sarsaparilla rhizome** (North America; Mexico), and **Ipecac rhizome** (South America; Brazil).

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

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

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

Rates of Exchange: 15 February 2011

CURRENCY	CODE	UNITS 1 / USD	UNITS 1 / EUR
British Pound	GBP	0.6201	0.8366
Canadian Dollar	CAD	0.9888	1.3339
Chinese Yuan Renminbi	CNY	6.5932	8.8949
Egyptian Pound	EGP	5.879	7.9314
EURO	EUR	0.7412	1.0000
Hong Kong Dollar	HKD	7.7942	10.5152
Indian Rupee	INR	45.545	61.4447
Japanese Yen	JPY	83.745	112.9804
Malaysian Ringgit	MYR	3.052	4.1175
Mexican Peso	MXN	12.149	16.3902
Moroccan Dirham	MAD	8.2972	11.1938
Nepalese Rupee	NPR	72.2	97.405
Peruvian Nuevo Sol	PEN	2.77	3.737
Russian Ruble	RUB	29.322	39.5583
South African Rand	ZAR	7.336	9.897
Swiss Franc	CHF	0.9664	1.3037
Taiwan Dollar	TWD	29.509	39.8106
United States Dollar	USD	1.0000	1.3491

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
CCC:	Standard Classification of Commodities of the Republic of China
CCCS:	Commodity Classification for China Customs Statistics
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
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

MEDICINAL PLANT SUPPLY CHAIN RISK MANAGEMENT

INTRODUCTION TO MNS 38

MARCH 2011

MNS No. 38 focuses on supply chain risks and increasing uncertainty resulting from one or more converging factors including climate change, major natural disasters and man-made disasters, geopolitical unrest, changing socio-economic conditions, and development causing habitat loss, among other factors.

Each section identifies some of the known supply chain risks of the region, identifies the region's main high-volume and/or high-value medicinal plants for export, whether these are cultivated or wild collected, and specifies which main countries the botanical is presently produced in. Mainly this edition provides general information on the supply chain risks that appear to be increasing or occurring with greater frequency and/or intensity.

In future editions of the MNS we will interview producers in countries of origin as well as key suppliers in destination markets in order to learn and report about emerging new strategies being implemented for mitigating and spreading risk for a sustainable medicinal plant supply chain.

Changes in the weather: According to the United Nations Meteorological Organization (WMO), the year 2010 ranked as the warmest on record (along with 2005 and 1998) with a large number of extreme weather events including the heat wave in Russia and the devastating floods that affected 20 million people in Pakistan. The WMO notes that major weather events continued in late 2010 and early 2011, including the January floods that have affected more than 800,000 people in Sri Lanka, the flash floods that have resulted in over 900 deaths in Brazil, and the severe flooding in eastern Australia which is expected to be the most costly natural disaster in that country's history. Farmers and wild collectors, the world over, have been observing and reporting changing seasonal weather patterns. Planting and harvesting times are being adjusted because flowering and fruiting periods have become less predictable. Over the past decade some of the major growing regions for medicinal plants have experienced significant crop failures and shortages due to unusual weather patterns that have led to droughts, heat waves, fires, unseasonable freezes, heavy rains, flooding and landslides. In 2010, exporting of some important medicinal plants was not even possible for some countries due to critical infrastructure failures following massive flooding (e.g. Pakistan). Also in 2010, in a number of important collection areas, harvesting could not commence during the optimal harvest time, or didn't commence at all, due to flood waters or fires making access to the collection areas difficult or impossible; e.g. this occurred in some European countries, namely Austria, Croatia, Czech Republic, Germany, Hungary, Poland, Romania, and Slovakia as well as in Brazil, China, Pakistan, and parts of the Russian Federation.

Changing socio-economic conditions: The age-old tradition of medicinal plant wild collection appears to be coming to an end in many regions as the younger generations increasingly move from remote or rural areas to urban areas in search of more reliable and higher income. And some herb and spice farmers are switching to higher value food crops or to biofuel crops.

Geopolitical factors such as civil unrest and uprisings throughout northern and eastern Africa have added new weight to supply chain uncertainty particularly for medicinal and aromatic plants produced in Tunisia, Algeria, Libya, Egypt, Sudan, Somalia, Djibouti, and Côte d'Ivoire, among others. In early 2011 there is similar geopolitical uncertainty potentially affecting trade in many Asian countries including Bahrain, Yemen, Oman, Jordan, Iran, Iraq and Syria. Other geopolitical factors potentially interrupting the medicinal plant supply chain include current wars (e.g. Afghanistan and Iraq) as well as recent civil wars (e.g. Sri Lanka and Sudan) and lingering adverse environmental and social impacts resulting from other past wars that took place in major medicinal plant wild collection areas (e.g. Balkan War splitting the former Yugoslavia into Bosnia & Herzegovina, Croatia, Kosovo, Macedonia, Serbia & Montenegro, and Slovenia; depleted uranium contamination in groundwater and soil from weapons used in the mid-1990's; continued life-threatening risks to herb collectors due to hundreds of thousands of land mines and unexploded munitions).

Major natural disasters such as large earthquakes have impacted production and trade of certain medicinal plants from countries including Chile, China, Haiti, India, Indonesia, Iran, Pakistan, and Thailand. Related tsunamis have also had major adverse impacts on production areas, roads and rail, and exporting ports in India, Indonesia, Japan, Maldives, Sri Lanka, and Thailand, among others.

Major man-made disasters such as nuclear power plant failures can result in widespread radioactive contamination of the environment causing medicinal and aromatic plants to be unsalable due to measurable levels of radioactive residues. Ever since the Chernobyl radioactive release in 1986, medicinal plants from certain regions have been routinely tested for radioactive isotopes. The fallout from that release caused contamination of wild medicinal and aromatic plants not only in the Ukraine, but also in Russia, Belarus, Sweden, Finland, and Germany, among other countries. The 2011 nuclear power plant failures in Japan were triggered by the massive earthquake and tsunami. The situation faced by Japan in early 2011 is considered to be the nation's worst crisis since the end of World War II with the Atomic bombings of Hiroshima and Nagasaki.

We invite our information providers and readers to contact us with their views on new strategies for spreading risk in consideration of apparent growing uncertainty in the sustainable trade of medicinal and aromatic plants and extracts.

AFRICA

Medicinal Plant Supply Chain Uncertainty associated with Popular Uprisings (and the weather)

The Arab Republic of Egypt is one of the world's major producers and exporters of chamomile flower (*Matricaria recutita*). The harvest period starts in late January and can continue into April. The 2010 harvest suffered considerably from unusual weather including snow and rain which resulted in low yields and lower than usual quality. The 2010 crop failure predictably caused worldwide shortages and price fluctuation as well as depletion of inventories from other sources. To get through the year, some companies needed to mix chamomile from different origins and qualities and also hold off on introducing any new chamomile-containing products whilst waiting for a better 2011 harvest.

Then just as the 2011 Egyptian chamomile harvest approached, the 2011 Egyptian Revolution commenced on 25 January. Until Egypt's President Mubarak was finally ousted on 11 February 2011, it was difficult for American and European buyers to get good information on the status of the 2011 crop. Following the revolution, chamomile producers have been reporting that they hope to gradually return to normal business in view of the country's changing circumstances with governing now in the hands of the Supreme Council of the Armed Forces.

Here is a summary of recent significant political events in Northern Africa that may be contributing to uncertainty in the supply of medicinal plants from this entire region.

- **Arab Republic of Egypt:** The popular uprising began on 25 January 2011. Following the resignation of President Mubarak on 11 February 2011, the Supreme Council of the Armed Forces assumed control of the government
- **Great Socialist People's Libyan Arab Jamahiriya:** The popular uprising began on 13 January 2011 with nationwide protests, armed revolt and occupation of cities. As of March 2011 the revolt is continuing with attacks on Libyan military targets by British, French and United States forces commencing on 19 March.
- **Tunisian Republic:** The popular uprising began on 18 December 2010. By 14 January 2011, President Zine El Abidine Ben Ali was forced to step down and flee the country. An interim government took control on 17 January.
- **People's Democratic Republic of Algeria:** Major protests and riots commenced on 28 December 2010. Major civil unrest continues in Algeria as of March 2011.
- **Republic of Côte d'Ivoire:** The results of the presidential election in November 2010 remain contested which has led to escalating violent clashes between militia and the military. As of February 2011 the banking system and money-wire services in Cote d'Ivoire are no longer operational.
- **Republic of the Sudan:** From 9 January to 15 January 2011, a referendum took place in Southern Sudan to determine whether the region should remain part of Sudan or become independent state. Over 98% voted in favor of independence and thus a new independent state of Southern Sudan is to be established in July 2011. And fighting continues (since 2003) in Sudan's western Darfur region.

Table 1 lists selected important medicinal and aromatic plants (MAPs) that are produced in the above-mentioned northern African countries presently in the midst of significant transition.

Table 1: Important Northern African Medicinal and Aromatic Plants in Trade: CIF (Côte d'Ivoire), DZA (Algeria), EGY (Egypt), LBY (Libya), MAR (Morocco), SDN (Sudan), TUN (Tunisia)

Common Name and Botanical Name	CIV	DZA	EGY	LBY	MAR	SDN	TUN
Anise fruit (<i>Pimpinella anisum</i>)			X		X		
Argan fruit (<i>Argania spinosa</i>)					X		
Artichoke leaf (<i>Cynara scolymus</i>)		X	X		X		X
Basil leaf (<i>Ocimum basilicum</i>)			X		X	X	
Cade juniper tar (<i>Juniperus oxycedrus</i>)		X			X		X
Calendula flower (<i>Calendula officinalis</i>)			X		X		
Caper flower bud (<i>Capparis spinosa</i>)		X	X	X	X		X
Caraway fruit (<i>Carum carvi</i>)			X		X		
Carob fruit (<i>Ceratonia siliqua</i>)		X		X	X		X
Centauray herb (<i>Centaurium erythraea</i>)					X		
Chamomile flower (<i>Matricaria recutita</i>)			X		X		
Chaste tree fruit (<i>Vitex agnus-castus</i>)		X			X		
Colocynth fruit (<i>Citrullus colocynthis</i>)			X	X		X	
Coriander fruit (<i>Coriandrum sativum</i>)			X		X		
Cumin seed (<i>Cuminum cyminum</i>)			X		X		
Cyperus rhizome (<i>Cyperus rotundus</i>)			X	X			
Dill fruit (<i>Anethum graveolens</i>)			X				
Esparto grass (<i>Stipa tenacissima</i>)		X					
Fennel fruit (<i>Foeniculum vulgare</i>)			X		X	X	
Fenugreek seed (<i>Trigonella foenum-graecum</i>)			X	X	X	X	
Fumitory herb (<i>Fumaria officinalis</i>)					X		
Garlic bulb (<i>Allium sativum</i>)			X				
Ginger rhizome (<i>Zingiber officinale</i>)	X						
Grains-of-paradise (<i>Aframomum melegueta</i>)	X						
Griffonia seed (<i>Griffonia simplicifolia</i>)	X						
Gum Arabic (<i>Acacia senegal</i>)						X	
Gum Talha (<i>Acacia seyal</i>)	X					X	
Henna leaf (<i>Lawsonia inermis</i>)	X		X		X		
Hibiscus flower (<i>Hibiscus sabdariffa</i>)	X		X			X	
Indian gum arabic (<i>Acacia nilotica</i>)	X	X				X	
Italian cypress leaf and cone (<i>Cupressus sempervirens</i>)		X			X		X
Karaya gum (<i>Sterculia setigera</i>)						X	
Khella fruit (<i>Ammi visnaga</i>)			X		X		X
Lavender flower (<i>Lavandula officinalis</i>)					X		
Lemon balm leaf (<i>Melissa officinalis</i>)		X			X		
Licorice root (<i>Glycyrrhiza glabra</i>)			X				
Mallow flower and leaf (<i>Malva sylvestris</i>)		X	X	X	X		X
Milk thistle fruit (<i>Silybum marianum</i>)		X	X	X	X		X
Molokhia herb (<i>Corchorus olitorius</i>)			X				
Mullein flower (<i>Verbascum thapsus</i>)			X				
Myrrh gum (<i>Commiphora</i> spp.)		X				X	
Myrtle (<i>Myrtus communis</i>)		X			X		
Nigella seed (<i>Nigella sativa</i>)			X		X	X	X
Orris root (<i>Iris germanica</i>)					X		
Parsley leaf (<i>Petroselinum crispum</i>)			X				
Peelu (<i>Salvadora persica</i>)		X	X			X	
Peppermint leaf (<i>Mentha x piperita</i>)		X	X		X		X
Pomegranate fruit (<i>Punica granatum</i>)			X	X	X	X	X
Rosemary leaf (<i>Rosmarinus officinalis</i>)		X	X		X		X
Saffron stigma (<i>Crocus sativus</i>)					X		
Sage leaf (<i>Salvia officinalis</i>)		X	X	X	X		
Senna leaf and pod (<i>Cassia acutifolia</i>)			X			X	
Spanish lavender flower (<i>Lavandula stoechas</i>)		X			X		
Spearmint leaf (<i>Mentha spicata</i>)			X		X		
Sudanese frankincense gum (<i>Boswellia papyrifera</i>)						X	
Sweet marjoram herb (<i>Origanum majorana</i>)			X		X		X
Syrian oregano (<i>Origanum syriacum</i>)			X				
West Indian lemongrass leaf (<i>Cymbopogon citratus</i>)			X				
White wormwood herb (<i>Artemisia herba-alba</i>)		X	X	X	X		X
Wild thyme herb (<i>Thymus serpyllum</i>)		X			X		

BOTANICAL PRODUCT SPECIFICATIONS
Milk Thistle Fruit
a product of Algeria, Egypt, Libya, Morocco and Tunisia

PRODUCT	
	Milk Thistle Fruit PhEur¹
Botanical name	<i>Silybum marianum</i> L. Gaertner (Fam. Asteraceae)
Pharmacopoeial name	Silybi mariani fructus PhEur
Part used	Mature fruit, devoid of the pappus
Cultivated or wild	Wild collected
Storage	Store protected from moisture
IDENTIFICATION	
Characters	No rancid odor
Macroscopic	PhEur Milk Thistle Fruit Monograph ID Test A
Microscopic	PhEur Milk Thistle Fruit Monograph ID Test B
Thin-layer chromatography	PhEur Milk Thistle Fruit Monograph ID Test C
TESTS	
Loss on drying	NMT 8.0% (PhEur 2.2.32)
Total ash	NMT 8.0% (PhEur 2.4.16)
Content	NLT 1.5% of silymarin, expressed as silibinin (dried drug) as determined by HPLC method (PhEur Milk Thistle Fruit Monograph)
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	
Herbal Tea	Used in Herbal Medicine to help relieve digestive disturbances/dyspepsia
Dry Extract, Fluidextract, Tincture	(a) Used in Herbal Medicine to help to support liver function; (b) Traditionally used in Herbal Medicine as a hepatoprotectant / liver protectant. ²

¹ European Pharmacopoeial Commission. Milk Thistle Fruit. In: *European Pharmacopoeia*, 7th edition (PhEur 7.0). Strasbourg, France: European Directorate for the Quality of Medicines (EDQM). 2010;1187-1189.

² Health Canada Natural Health Products Directorate (NHPD). Monograph: Milk Thistle. In: Natural Health Products Ingredients Database. Ottawa, Ontario: Natural Health Products Directorate. 19 June 2009. Available at: <http://webprod.hc-sc.gc.ca/nhp-id-bdipn/monoReq.do?id=138&lang=eng>

BOTANICAL RAW MATERIALS (indicative bulk prices)

Product	Botanical Name	Cult or Wild	Origin	Price USD / kg	Basis
Buchu leaf, whole	<i>Agathosma betulina</i>	NK	South Africa	38.36	CIF
Cape aloe latex, whole	<i>Aloe ferox</i>	NK	South Africa	7.77-8.96	CIF
Chamomile flower, TBC	<i>Matricaria recutita</i>	C	Egypt	3690 MT	CIF
Chamomile flower, whole	<i>Matricaria recutita</i>	C	Egypt	6450 MT	CIF
Clove flower bud	<i>Syzygium aromaticum</i>	C	Madagascar/Zanzibar	7.17	Spot NY
Devil's claw root, whole	<i>Harpagophytum procumbens</i>	W	Namibia, South Africa	6.37-7.14	CIF
Fennel fruit, whole	<i>Foeniculum vulgare</i>	C	Egypt	2.98	Spot NY
Gotu kola herb, whole	<i>Centella asiatica</i>	W	Madagascar	8.47	CIF
Hibiscus flower	<i>Hibiscus sabdariffa</i>	C	Senegal	1.95	FOB
Hibiscus flower, organic*	<i>Hibiscus sabdariffa</i>	C	Egypt	2350-2450 MT	CIF
Hoodia, powder	<i>Hoodia gordonii</i>	W/C	Namibia, South Africa	33.18	CIF
Pygeum bark	<i>Prunus africana</i>	W	Cameroon	9.52	CIF
Rooibos herb, cut & sifted	<i>Aspalathus linearis</i>	C	South Africa	7.63	CIF

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

Notes:

(1) **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 7th edition 2011) or French Pharmacopoeia (PhFr X).

(2) **Hibiscus flower:**

Egypt: container loads of organic hibiscus available at this price from November-December 2010 harvest. Contact Mr. Sayed Farouk, Organic Land: <http://organiclandco.com/contact.htm>

Senegal: container loads available from the November 2010 harvest. Contact Ms. Fatou Gaye, Africaine de Production Agricole, Senegal. TEL: +221 77 641 32 40.

(3) **Pygeum bark:** Currently there is a CITES trade restriction in many of the countries of origin for the export of pygeum bark (*Prunus africana*), including Democratic Republic of Congo, Equatorial Guinea, and United Republic of Tanzania. Cameroon however has an export quota of 150,000 kg. See: http://www.cites.org/eng/disc/trade_suspension.shtml

BOTANICAL EXTRACTS (indicative bulk prices)

Product	Standard	Origin	Price USD/kg	Basis
Devil's claw root dry extract (<i>Harpagophytum procumbens</i>)	6:1 (w/w)	Africa	32	FOB Origin
Kola nut dry extract (<i>Cola nitida</i>)	10% caffeine	Africa	12.6	FOB Origin
Pygeum bark powdered extract (<i>Prunus africana</i>)	NK	Africa	175.84	CIF EU

MEETINGS AND TRADE SHOWS AFRICA

March 24-26, 2011

IV INTERNATIONAL SYMPOSIUM ON MEDICINAL AND AROMATIC PLANTS: SIMPAM2011

Venue: Djerba, Tunisia
Organizer: Institute des Régions Arides
Contact: Dr. Houcine Khatteli, Route de Djouf, Km 22, 5, 4119 Médenine, Tunisia.
TEL: (216) 756 33 121
FAX: (216) 756 33 006
E-MAIL: neffati.mohamed@ira.nrnt.tn or sipam@ira.nrnt.tn
WEB: <http://www.ishs.org/news/?p=1142>
<http://www.sipam.ira.nrnt.tn>

Topics:

- Agro-Ecophysiology, Genetics and Biotechnology of MAP
- Extraction process, analysis and chemistry of natural compounds
- Valorisation of natural compounds in different industries (food, pharmacy, cosmetic...)
- Phytotherapy between traditional use and alternative medicine
- MAPs and animal health
- MAP chain value, Socio-economical aspects, regulatory and normative requirements

April 6-7, 2011

SHEA 2011: SUSTAINABLE SOLUTIONS

Venue: La Palm Hotel, Accra, Ghana
Organizer: USAID West Africa Trade Hub
E-MAIL: info@globalshea.com, aadu@watradehub.com
WEB: <http://www.globalshea.com>

The international industry event will bring together producers, traders, buyers, retailers, logistical support organizations, financiers, certifiers, transporters, packaging supplies and researchers; representing every level of the shea value chain. The event aims to promote shea in international markets, form an international shea alliance, support sustainable sourcing of shea nuts and butter and improve supply chain transparency.

April 19, 2011

THE 1st ANNUAL MEETING ON TOTAL QUALITY MANAGEMENT OF HERBS & MEDICINAL PLANTS & THEIR PRODUCTS: PACKAGING TECHNOLOGIES SYSTEM FOR ENHANCING THE EXPORTATION

Venue: Egyptian International Centre for Agriculture Conference Hall
Nady El-Seed Street, Dokki, Giza, Egypt
Organizers: Egyptian Society for producers, manufactures and exporters of herbs and medicinal plants (ESMAP); Agricultural Research Center; Food Technology Research Institute (FTRI), Horticultural Research Institute (HRI) and Central Lab. for Organic Farming.
Contact: Prof. Dr. Samah Said Allam, Food Technology Research Institute (FTRI), 9 Gamaa St., Giza, Egypt
TEL: +20 101160141
FAX: +20 235684669
EMAIL: nlftri@internetegypt.com
WEB: <http://www.tqm-herbs.com>

Main topics:

1. Herbs and medicinal plants, fresh and dried- modern systems for packaging, (the present situation and future perspective).
2. Essential and pharmaceutical (medicinal) oils, modern technological systems for the extraction and packaging.
3. Quality control for the products and the optimum systems during handling and storage, and the standard methods for quality analyzers.
4. Exportation obstacles and international regulations.
5. Marketing strategies of herbs and medicinal plants and their products.

6. Herbs and medicinal plants in complementary medicine and functional foods. The optimum methods for packaging to keep its high quality characteristics.
7. Development of organic farming for herbs and medicinal plants in Arab region and their packaging systems.
8. Flavor and aroma enhancers, pharmaceutical and cosmetics and their packaging systems.

May 12-13, 2011

4th INTERNATIONAL SYMPOSIUM ON MEDICINAL AND AROMATIC PLANTS (SIPAM 4)

Venue: l'Université Hassan II – Mohammadia, Maroc
Organizers: Pole of competences Moroccan network of the Aromatic and Medicinal Plants (RÉPAM), Arabic Federation of Medicinal and Aromatic Plants (FAPMA), and Laboratory of Bioorganic & Analytical Chemistry
Contact: Pr. M. AKSSIRA, LCBA, FST-Mohammedia, BP 146, 20800 Mohammedia, Maroc
TEL: 212 523 314 705
FAX: 212 523 315 353
EMAIL: sipam4@fstm.ac.ma, or akssira@yahoo.fr
WEB: <http://www.fstm.ac.ma/sipam4>

Topics:

- Biodiversity, ethnobotany and ethnopharmacology.
- Production, cultivation, domestication and conservation.
- Phytochemistry, Extraction, separation, purification and characterization, synthesis and semisynthesis.
- Pharmacological and toxicological properties.
- Development, Socioeconomic impact, and sustainability.
- Phyto-aromatherapy, herbal medicines and cosmetics.

CHINA and other East Asian Countries

Medicinal Plant Supply Chain Uncertainty associated with Extreme Weather Events, Massive Earthquakes, Landslides, Tsunamis, Speculation, and Nuclear Disaster

JAPAN - botanicals from Honshu Island (mushrooms, seaweeds, and wasabi)

In Japan, the magnitude 9.0 Tohoku Earthquake that occurred on 11 March 2011 near the east coast of Honshu was followed by a massive tsunami with wave heights up to 10 meters. There has been subsequent major damage to several nuclear reactors releasing radiation into the atmosphere introducing contamination into soil, water and crops in Japan and abroad. Over 10,000 people died and over 10,000 people remain missing. Many coastal and inland harvesting areas have been contaminated and/or destroyed. The edible and medicinal seaweed industry is certainly impacted. Honshu Island is also a major farming area for wasabi rhizome (*Wasabia japonica*), rice (*Oryza sativa*), and shiitake mushroom (*Lentinula edodes*). There is severe damage to Japan's transportation and electrical infrastructure that will take years to normalize. Adding to this disaster is the fact that many countries have since suspended food and agricultural imports from several Japanese prefectures (Fukushima, Ibaraki, Tochigi, Gunma and Chiba Prefectures in particular) affected by radiation from an earthquake- and tsunami-damaged nuclear power plant. This includes major seaweed collection and processing areas. Some western countries, most notably Italy, are restricting and screening imports of all products from Japan including tea leaf (*Camellia sinensis*), products made from soya bean (*Glycine max*) and seaweeds. Important Japanese seaweeds include: Funori thallus (*Gloiopeltis spp.*), Green laver thallus (*Enteromorpha spp.*), Hijiki thallus (*Hizikia fusiformis*), Hitoegusa thallus (*Monostroma spp.*), Kombu thallus (*Kjellmaniella crassifolia*; *Laminaria japonica* & other *Laminaria* species), Nori thallus (*Porphyra spp.*), Tengusa thallus (*Gelidium amansii* & other *Gelidium* species) and Wakame thallus (*Undaria pinnatifida*).

PEOPLE'S REPUBLIC OF CHINA – prices of most botanicals skyrocketing

As reported in past editions of the *Market News Service* (MNS), the People's Republic of China (PRC) is the world's #1 producer, consumer, and exporter of medicinal, culinary and aromatic plants and extracts. With that said, availability and prices of Chinese medicinal plants have become increasingly unstable. Factors impacting uncertain availability (like low yields and crop failures) and increasing prices over the past few years include:

- severe droughts that occurred in many Provinces between 2006 and 2009 (worst droughts in over 100 years in southwestern China);
- the great Sichuan 8.0 Earthquake of 2008; nearly 70,000 people died, 374,177 injured and 18,392 missing; significant damage to agricultural and herb collection areas and infrastructure in three provinces. Nearly 8 million houses collapsed and over 24 million partially-collapsed houses; mostly affected were farming families;
- the 2010 China Floods began in May unleashing four months of massive flooding and landslides triggered by torrential rains. The disaster affected more than 400 million people throughout China including over 15 million people who were evacuated from their homes by end of August 2010. Over 3,000 people died with over 1,000 missing. Significant damage to agricultural and transportation infrastructure throughout China;
- rapidly rising labor costs and labor shortages; herb farmers and wild collectors seeking higher paying work in urban areas; many families abandoning herb harvesting or switching to food or higher value crops;
- increased demand in response to disease scares (e.g. H1N1 and SARS);
- rising strength of Yuan currency;
- speculation.

According to media reports³ confirmed by MNS information providers, market prices of many high-demand TCM botanicals have skyrocketed over the past few seasons. In particular, significant price increases have been seen for codonopsis root (*Codonopsis spp.*), coptis rhizome (*Coptis spp.*), cordyceps fungus (*Cordyceps sinensis*), dong quai root (*Angelica sinensis*), ginger rhizome (*Zingiber officinale*), honeysuckle flower (*Lonicera spp.*), lycium fruit (*Lycium barbarum* and *L. chinense*), pseudostellaria root tuber (*Pseudostellaria heterophylla*), safflower flower (*Carthamus tinctorius*)

³ Shan Juan, Cang Wei. Price-rise disease plagues herbal medicines. *China Daily*. 04 January 2011. Available at: http://europe.chinadaily.com.cn/business/2011-01/04/content_11793314.htm

schisandra fruit (*Schisandra chinensis* and *S. sphenanthera*), and Tienchi ginseng root (*Panax notoginseng*), among many others.

According to Yu Mingde, Chairman of the China Pharmaceutical Enterprises Association, "The price of TCM materials has surged dramatically during the past two years, with the average growth exceeding 100 percent as a result of a rise in raw material prices and because of speculation."⁴ In 2010, output of TCM raw materials reached 700,000 MT, of which 300,000 MT or more than 40% was exported to Japan and Republic of Korea. According to Li Zhenjiang, a deputy on the National People's Congress (NPC), China should establish a "reserve system" for TCM raw materials, "A reserve system would help to prevent speculation in the raw materials for TCMs on the international and domestic markets, and would protect natural resources and guarantee sustainable development for China's TCM sector." A very useful article was published online in the February 2011 edition of *HerbalEgram* of the American Botanical Council, "Global Prices of Traditional Chinese Herbs Rising," available at: <http://cms.herbalgram.org/heg/volume8/02February/TCMpricesrising.html?t=1296580896>.⁵

REPUBLIC OF INDONESIA - Sumatran botanicals (benzoin, cassia, java tea, nutmeg, patchouli)

The Republic of Indonesia, also a major producer and exporter of medicinal plants, herbs and spices, suffers frequently from earthquakes and tsunamis. The magnitude 7.7 Pulau Pagai Selatan, Sumatra Earthquake that occurred on 25 October 2010 was followed by a tsunami at a maximum height of 7 meters. It has taken several years to rebuild and reestablish abandoned farming and wild collection operations in some parts of Indonesia ever since the magnitude 9.1 Sumatra-Andaman earthquake and massive Indonesian Tsunami of 26 December 2004. The tsunami caused more casualties and damage than any other in recorded history. In 2009 there were five Indonesian earthquakes with a magnitude of 7.0 or greater, some of which damaged a number of cinnamon plantations, causing major disruption to the crop, supply problems and higher prices. New trees take 15 years to mature.

Table 1 lists selected important medicinal and aromatic plants (MAPs) that are produced in one or more of East Asian countries including China, Indonesia, Japan, Malaysia, South Korea, Thailand and Viet Nam.

Table 1: Important East Asian Medicinal and Aromatic Plants in Trade: CHN (China), IDN (Indonesia), JPN (Japan), KOR (South Korea), MYS (Malaysia), THA (Thailand), VNM (Viet Nam)

Common Name and Botanical Name	CHN	IDN	JPN	KOR	MYS	THA	VNM
Agar-agar (<i>Gelidium amansii</i> , <i>G. cartilagineum</i> , other <i>Gelidium</i> spp.)	X	X	X	X	X		
Agarwood (<i>Aquilaria malaccensis</i>)		X			X		
Arame seaweed (<i>Eisenia bicyclis</i>)			X				
Ashitaba leaf & stem (<i>Angelica keiskei</i>)		X	X				
Astragalus root (<i>Astragalus membranaceus</i>)	X		X	X			
Atractylodes rhizome (<i>Atractylodes japonica</i> , <i>A. ovata</i>)	X		X	X			
Benzoin resin, Siam (<i>Styrax tonkinensis</i>)						X	X
Benzoin resin, Sumatra (<i>Styrax benzoin</i> , <i>S. paralleloneurus</i>)		X					
Betel nut (<i>Areca catechu</i>)	X	X				X	
Camellia seed (<i>Camellia japonica</i> , <i>C. meiocarpa</i> , <i>C. oleifera</i>)	X		X				
Camphor leaf or wood (<i>Cinnamomum camphora</i>)	X			X			
Cardamom seed (<i>Elettaria cardamomum</i>)		X			X	X	
Chinese lovage rhizome (<i>Ligusticum jeholense</i> , <i>L. sinense</i>)	X						
Chinese peony root (<i>Paeonia lactiflora</i>)	X		X	X			
Chlorella algae (<i>Chlorella vulgaris</i>)			X				
Chrysanthemum flower (<i>Chrysanthemum indicum</i> , <i>C. morifolium</i>)	X						
Cinnamon bark, Ceylon (<i>Cinnamomum verum</i>)	X	X				X	
Cinnamon bark, Chinese cassia (<i>Cinnamomum aromaticum</i>)	X	X					X
Cinnamon bark, Padang (<i>Cinnamomum burmanii</i>)		X			X		
Cinnamon bark, Saigon (<i>Cinnamomum loureirii</i>)							X
Clove flower bud (<i>Syzygium aromaticum</i>)		X			X	X	
Cocoa butter (<i>Theobroma cacao</i>)		X			X		
Codonopsis root (<i>Codonopsis pilosula</i> , <i>C. tangshen</i>)	X			X			
Coptis rhizome (<i>Coptis chinensis</i> , <i>C. deltoidea</i> , <i>C. japonica</i> , <i>C. teeta</i>)	X		X				

⁴ Liu Jie. Reserve system mooted for TCMs. *China Daily*. 08 March 2011. Available at: http://europe.chinadaily.com.cn/business/2011-03/08/content_12135141.htm

⁵ Korpik C. Global prices of traditional Chinese herbs rising. *HerbalEgram*. February 2001;8(2): <http://cms.herbalgram.org/heg/volume8/02February/TCMpricesrising.html?t=1296580896>

Common Name and Botanical Name	CHN	IDN	JPN	KOR	MYS	THA	VNM
Cordyceps fungus (<i>Cordyceps sinensis</i>)	X						
Dammar gum (<i>Agathis</i> , <i>Hopea</i> , or <i>Shorea</i> genera)		X					
Danggui root (<i>Angelica sinensis</i>)	X						
Eleuthero root (<i>Eleutherococcus senticosus</i>)	X		X	X			
Ephedra herb (<i>Ephedra sinica</i> , <i>E. intermedia</i> , <i>E. equisetina</i>)	X						
Epimedium herb (<i>Epimedium koreanum</i>)	X		X	X			
Eucommia stem bark (<i>Eucommia ulmoides</i>)	X						
Funori thallus (<i>Gloiopeltis</i> spp.)			X				
Galangal rhizome, Greater (<i>Alpinia galanga</i>)	X	X			X	X	
Galangal rhizome, Kaempferia (<i>Kaempferia galanga</i>)	X	X			X		
Galangal rhizome, Lesser (<i>Alpinia officinarum</i>)	X	X	X		X	X	X
Garlic bulb (<i>Allium sativum</i>)	X			X		X	
Ginger rhizome (<i>Zingiber officinale</i>)	X	X	X		X	X	X
Ginkgo leaf (<i>Ginkgo biloba</i>)	X		X	X			
Ginseng root, Asian (<i>Panax ginseng</i>)	X			X			
Gotu kola herb (<i>Centella asiatica</i>)	X	X	X	X	X	X	X
Green laver thallus (<i>Enteromorpha</i> spp.)			X				
Gutta hang kang (<i>Palaquium leiocarpum</i> , <i>P. oblongifolium</i>)		X			X		
Gutta percha latex (<i>Palaquium gutta</i> and <i>Payena</i> spp.)		X			X		
Hijiki thallus (<i>Hizikia fusiformis</i>)			X				
Hitoegusa thallus (<i>Monostroma</i> spp.)			X				
Japanese honeysuckle flower, leaf and stem (<i>Lonicera japonica</i>)	X		X	X			
Java tea leaf (<i>Orthosiphon stamineus</i>)		X			X		
Job's tears seed (<i>Coix lacryma-jobi</i> var. <i>ma-yuen</i>)	X					X	
Kacip fatimah (<i>Labisia pumila</i>)					X		
Kohki leaf (<i>Engelhardtia chrysolepis</i>)	X		X				
Kombu thallus (<i>Kjellmaniella crassifolia</i> ; <i>Laminaria japonica</i>)			X				
Konnyaku tuber (<i>Amorphophallus konjac</i>)	X	X	X				
Licorice root (<i>Glycyrrhiza glabra</i> ; <i>G. uralensis</i>)	X						
Lycium (<i>Lycium chinense</i>)	X		X	X		X	
Luo han guo leaf & fruit (<i>Siraitia grosvenorii</i>)	X						X
Maitake mushroom (<i>Grifola frondosa</i>)			X				
Mangosteen fruit (<i>Garcinia mangostana</i>)					X	X	
Matsutake mushroom (<i>Tricholoma matsutake</i>)	X		X				
Mizugoke moss (<i>Sphagnum</i> spp.)	X		X				
Noni leaf and fruit (<i>Morinda citrifolia</i>)		X			X	X	
Nori thallus (<i>Porphyra</i> spp.)			X				
Nutmeg seed & Mace aril (<i>Myristica fragrans</i>)		X			X	X	
Patchouli leaf (<i>Pogostemon cablin</i>)		X					
Pepper fruit (<i>Piper nigrum</i>)	X	X			X	X	X
Pinellia rhizome (<i>Pinellia ternata</i>)	X		X	X			
Poria sclerotium (<i>Wolfiporia cocos</i>)	X		X	X			
Rehmannia root tuber (<i>Rehmannia glutinosa</i>)	X						
Reishi mushroom (<i>Ganoderma lucidum</i>)	X		X				X
Rhubarb root (<i>Rheum officinale</i> , <i>R. palmatum</i> , <i>R. tanguticum</i>)	X						
Safflower flower (<i>Carthamus tinctorius</i>)	X			X			
Sappanwood (<i>Caesalpinia sappan</i>)	X	X			X	X	
Schisandra fruit, northern (<i>Schisandra chinensis</i>)	X			X			
Shiitake mushroom (<i>Lentinula edodes</i>)	X		X	X			
Sichuan pepper fruit (<i>Zanthoxylum piperitum</i>)	X		X	X			
Soap nut fruit (<i>Sapindus mukorossi</i>)	X		X	X			
Star anise fruit (<i>Illicium verum</i>)	X						X
Sweet wormwood herb (<i>Artemisia annua</i>)	X						X
Tabu leaf (<i>Machilus thunbergii</i>)	X	X	X			X	
Tengusa thallus (<i>Gelidium amansii</i>)			X				
Tea leaf (<i>Camellia sinensis</i>)	X	X	X				X
Tongkat ali root (<i>Eurycoma longifolia</i>)		X			X		
Tremella mushroom (<i>Tremella fuciformis</i>)	X		X				
Turmeric rhizome (<i>Curcuma longa</i>)	X	X	X			X	
Turmeric rhizome, Javanese (<i>Curcuma xanthorrhiza</i>)		X			X		
Wakame thallus (<i>Undaria pinnatifida</i>)			X				
Wasabi rhizome (<i>Wasabia japonica</i>)			X				
West Indian lemongrass leaf (<i>Cymbopogon citratus</i>)		X			X		X

BOTANICAL PRODUCT SPECIFICATIONS
Japanese Honeysuckle Leaf and Stem
a product of China, Japan and Korea

PRODUCT	Lonicera Leaf and Stem ⁶
Botanical name	<i>Lonicera japonica</i> Thunberg (Fam. Caprifoliaceae)
Pharmacopoeial name	Lonicerae Folium cum Caulis JP
Part used	Dried leaves and stems
Cultivated or wild	Cultivated and wild collected
Storage	Preserve in well-closed containers protected from moisture and insects
IDENTIFICATION	
Characters	Color: grayish yellow-brown to purplish brown Odor: almost odorless Taste: slightly astringent, followed by a little bitterness
Macroscopic	As per macroscopic description in JP Monograph
Microscopic	As per microscopic description in JP Monograph
Thin-layer chromatography	As per thin-layer chromatography identification test in JP Monograph
TESTS	
Purity	Does not contain stems larger than 5 mm in diameter
Loss on drying	NMT 12.0% (JP 5.01)
Total ash	NMT 9.0% (JP 5.01)
Acid-insoluble ash	NMT 1.0% (JP 5.01)
Extract content	NLT 12.0% of dilute ethanol-soluble extract (JP 5.01)
CONTAMINATION	
Microbial enumeration limits for herbal drugs and their preparations to which boiling water is added before use	
Aerobic bacteria	10 ⁷ cfu/g
Molds and yeasts	10 ⁴ cfu/g
<i>Escherichia coli</i>	10 ² cfu/g
<i>Salmonella</i>	Not detected

BOTANICAL RAW MATERIALS (indicative bulk prices)

Product	Botanical Name	Cultivated Or Wild	Origin	Price USD/kg	Basis
Asian ginseng root	<i>Panax ginseng</i>	Cultivated	China	88.16	Spot SF
Astragalus root, cut & sifted	<i>Astragalus membranaceus</i>	Cultivated	China	6.37	CIF
Cassia bark, powdered steam sterilized	<i>Cinnamomum aromaticum</i>	Cult/Wild	China	7.5	FOB CA
Coptis rhizome	<i>Coptis chinensis</i>	Cultivated	China	44.07	Spot SF
Cumin fruit	<i>Cuminum cyminum</i>	Cultivated	China	3.64	Spot NY
Eleuthero root	<i>Eleutherococcus senticosus</i>	Wild	Jilin, China	8.8	Spot SF
Honeysuckle flower	<i>Lonicera hypoglauca</i>	Cult/Wild	China	66.12	Spot SF
Java tea, powdered	<i>Orthosiphon stamineus</i>	Cultivated	Indonesia, Malaysia	7.77	CIF
Java tea, whole	<i>Orthosiphon stamineus</i>	Cultivated	Indonesia, Malaysia	4.69	CIF
Lycium fruit	<i>Lycium barbarum</i>	Wild/Cult	Shaanxi	14.31	Spot SF
Schisandra fruit, northern	<i>Schisandra chinensis</i>	Wild	Jilin, China	48.5	Spot SF
Schisandra fruit, southern	<i>Schisandra sphenanthera</i>	Wild	Southern China	19.8	Spot SF

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

⁶ Committee of the Japanese Pharmacopoeia. Lonicerae Folium cum Caulis. In: *Japanese Pharmacopoeia Fifteenth Edition* (JP XV). Tokyo, Japan: Ministry of Health Labour and Welfare. 2007;1314. Available at: <http://jpdh.nihs.go.jp/jp15e>.

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) Unusual weather in Southern China has had an impact on the availability of certain herbs. As a result, for example, the spot price for honeysuckle flower in San Francisco market jumped from USD \$44.07 / kg to \$59.10 / kg,
- (3) Prices for Lycium fruit are predicted to continue increasing in 2011.

**MEETINGS AND TRADE SHOWS
CHINA & OTHER EASTERN ASIAN COUNTRIES**

April 15-17, 2011**7th HERBAL ASIA 2011****THE 7TH INTERNATIONAL HERBAL TRADE SHOW & TRADE PLATFORM FOR HERBAL INDUSTRY**

Venue: Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia
Organizer: Gitex (M) Sdn Bhd, Forest Research Institute Malaysia (FRIM)
Endorsed by: Malaysia External Trade Development Corporation (MATRADE), Federal Agriculture Marketing Authority (FAMA), Majlis Amanah Rakyat, Gagasan Badan Ekonomi Melayu (GABEM).
Supported by: Ministry of Natural Resources & Environment, Ministry of Rural & Regional Development, Ministry of Agriculture & Agro-based Industry, Ministry of Entrepreneur & Cooperative Development, Ministry of Information, Ministry of Health, Ministry of Tourism, Ministry of Culture, Art & Heritage.
Contact: Secretariat Herbal Asia, Level 14, Gtower, No. 199, Jalan Tun Razak, 50400 Kuala Lumpur, Malaysia.
TEL: 603 2168 1490/1450
FAX: 603 2168 1824
E-MAIL: herbalasia@waris2u.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: Herbal Product Manufacturers, growers and suppliers of botanical raw materials, organic food suppliers, product suppliers, 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, traders & retailers 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.

June 21-23, 2011

HEALTH INGREDIENTS (Hi) / NATURAL INGREDIENTS (Ni) CHINA 2011

Venue: Shanghai New International Expo Centre, Shanghai, China
Organizer: United Business Media (UBM) International
Contact: Mr. Jonathon Vis, UBM, PO Box 200, 3600 AE Maarsse, The Netherlands.
TEL: +31 346 559444
FAX: +31 346 573811
E-MAIL: Jonathon.vis@ubm.com
WEB: <http://fiasiachina.ingredientsnetwork.com/home>

Exhibitor profile: Companies that cultivate, extract, process or supply health, nutraceutical, organic or functional ingredients, natural ingredients used in food & beverages, medical remedies and nutraceuticals.

July 3-10, 2011

IFEAT STUDY TOUR OF JAVA ISLAND, INDONESIA

Organizers: IFEAT, Indonesian Essential Oil Council, PACTO
Contact: IFEAT Secretariat, 9 Lincoln's Inn Fields, London, WC2A 3BP, United Kingdom
TEL: +44 (0) 20 7814 9666
FAX: +44 (0) 20 7814 8383
E-MAIL: events@ifeat.org
WEB: <http://www.ifeat.org>
<http://www.ifeat.org/StudyTours/Indonesia2010/Indonesia.pdf>

Aim: The study tour will allow participants to gain knowledge of the production, trading and research on essential oils, extracts and derivatives and to understand the economic, historical and cultural background which form the traditional cottage industry of Indonesia – the Spice Islands.

August 11-15, 2011

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)
Contact: TEL: (852) 1830 668
FAX: (852) 2824 0249
E-MAIL: hktcdc@hktcdc.org
WEB: <http://gbcodes.hktcdc.com/uniS/icmcm.hktcdc.com>

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

August 25-27, 2011

NATURAL PRODUCTS EXPO ASIA 2011

Venue: Hong Kong Convention & Exhibition Centre, Hong Kong
Supporters: Hong Kong Health Food Association (HKHFA), Hong Kong Organic Farming Association (HOFA), International Alliance of Dietary/Food Supplement Association (IADSA), KHSA, NASAA Certified Organic, Nippon Pharmacy Association (NphA), Natural Products NZ, Organic Federation of Australia, International Federation of Organic Agriculture Movements (IFOAM).
Organizer: New Hope Natural Media, a division of Penton Media Asia Limited
Contact: 1302 Wanchai Central Building, 89, Lockhart Road, Wan Chai, China (Hong Kong S.A.R.) Mr. Angel Ng
TEL: + (852) (852) 34025013 / + (852) 29759051
E-MAIL: Sales & Sponsorship - alan.lam@penton.com, rkidder@newhope.com. Marketing & PR - ychang@penton.com. Seminar & Conference - ang@penton.com.
WEB: <http://www.naturalproductsasia.com>

Exhibitor Profile: Herbs and spices, plant extracts, dietary supplements, traditional remedies and medicines, coffee and tea, ecological products, organic foods and beverages

September 4-9, 2011

5th INTERNATIONAL SEABUCKTHORN ASSOCIATION CONFERENCE (ISA 2011)

Developing Seabuckthorn: For the Harmonious Ecosystem & Healthy Life

Venue: Qinghai Conference Centre, Xining, Qinghai Province, PRC
Organizers: International Seabuckthorn Association (ISA) & Qinghai Provincial Government PRC
Sponsors: Commerce Department of Qinghai Province, PRC, Chamber of Commerce, Qinghai Province, Qinghai Tsinghua Biotry Bio-Tech Co., Ltd.
Contact: ISA Secretariat: Dr. Xia Jingfan
TEL: 86 10 63204363
FAX: 86 10 63204359
E-MAIL: isahome@163.com
WEB: <http://www.isahome.net>

Topics:

1. Conservation and Utilization of Seabuckthorn Germplasm Resources
2. Seabuckthorn Planting, Management and Resources Construction
3. Application Study on Functional Food & Drug
4. Seabuckthorn Product Processing & Marketing
5. Eco-environment Construction and Water and Soil Conservation
6. Seabuckthorn and Low-carbon economic and social construction

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
E-MAIL: 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.

October 5-7, 2011

HEALTH INGREDIENTS (Hi) JAPAN 2011

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

November 1-3, 2011

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

Venue: The Tokyo International Exhibition Center (Tokyo Big Sight), West Hall 4, Tokyo
Patron: International Federation of Organic Agriculture Movements (IFOAM)
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: www.biofach-japan.com

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

November 2-4, 2011
IN-COSMETICS ASIA

Venue: BITEC, Bangkok Thailand
Organizer: Reed Exhibitions, part of Reed Elsevier
Contact: TEL: +44 (0) 20 8910 7847
FAX: +44 (0) 20 8910 7926
E-MAIL: incosasiateam@reedexpo.co.uk
WEB: <http://www.in-cosmeticsasia.com>

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

November 15-18, 2011
INTERNATIONAL SYMPOSIUM ON MEDICINAL AND AROMATIC PLANTS

Venue: Chiang Mai, Thailand
Organizers/Sponsors: International Society for Horticultural Science (ISHS), Horticultural Science Society of Thailand (HSST), Department of Agriculture (DOA), Kasetsart University (KU), Chiang Mai University (CMU), Maejo University (MU), Thailand Research Fund (TRF).
Contact: Peyanoot Naka, Secretary (Horticultural Research Institute), Chatuchak Bangkok 10900 Thailand.
TEL: 66 2 579 8553, 940 5484 5 ext.117
FAX: 66 2 561 4667
E-MAIL: Peyanoot@hotmail.com, royalflorasymposium2011@yahoo.com
WEB: <http://www.royalflora2011.com/images/Medicinal.pdf>

Held in association with the "Royal Flora Ratchaphruek 2011: International Horticultural Exposition – A Tribute to the Royal Perservance".

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

May 13-15, 2012
ASIAN AROMA INGREDIENTS CONGRESS & EXPO (AAIC) 2012

Venue: Grand Hyatt, Nusa Dua, Bali
Organizer: Dewan Atsiri Indonesia, Indonesian Essential Oil Council
Supporters: Ministry of Agriculture, Ministry of Industry, Ministry of Trade, Essential Oil Association of India, China Essential Oils, Aroma and Spices Trade Association, Fragrance & Flavour Association of India, The Spice Council of Sri Lanka
WEB: <http://www.aaic2012.com/>

EUROPE

Medicinal Plant Supply Chain Uncertainty associated with Extreme Weather Events

The summer of 2009 was marked with drought, high temperatures and devastating wildfires throughout much of Southern Europe (French Republic, Hellenic Republic, Italian Republic, and Kingdom of Spain) affecting both field cultivation and herb collection in forests. The 2010 severe drought and wildfires in European Russian Federation were a disaster for the agricultural sector including the herb and spice sub-sector. In many parts of the Danube River region (Republic of Hungary, Romania, and Slovak Republic), the period of November 2009 to November 2010 produced the largest amount of precipitation ever observed. In the summer of 2010, harvesting could not commence during the optimal harvest times in many herb growing areas, or did not commence at all, due to flood waters or fires making access to the collection areas difficult or impossible. This occurred in parts of some Central and Eastern European countries, namely in the Czech Republic, Federal Republic of Germany, Republic of Austria, Republic of Croatia, Republic of Hungary, Republic of Poland, Romania, and in the Slovak Republic. Heavy rains in May 2010 followed by massive flooding in June and July led to record-low-yields for many medicinal and aromatic plants. In March 2011, the European Parliament Committee on Budgets approved plans to release EU Solidarity Fund aid to help repair the 2010 flood damage in Poland, Slovakia, the Czech Republic, Hungary, Croatia and Romania. Here follows brief summaries of the 2010 major natural disasters in three of Europe's leading medicinal plant producing and exporting countries, Hungary, Poland, and Romania.

REPUBLIC OF HUNGARY

During May and June 2010, one month of near continuous rainfall led to severe flooding that caused widespread damage to the agricultural sector, the road network and other infrastructure with the northeastern and central parts of Hungary hit particularly hard. But also in the southern Transdanubian region of Hungary, storms with heavy rains and record-breaking strong winds led to flash floods and inundated farm and forest land. Nearly 200,000 hectares of agricultural land were inundated with flood water. About 1,000 homes were flood damaged or destroyed. Some of Hungary's major producers of medicinal and aromatic plants are situated in the southern part of Transdanubian Hungary near the Croatian border. 2010 was a disaster for the herb farmers and collectors in this part of Hungary.

REPUBLIC OF POLAND

The 2010 floods were reported to be the worst in 140 years. In May and June of 2010 two consecutive flood waves affected a large part of Poland coming from the south to the north moving downstream the main rivers Vistula, Oder and Warta. The floods hit almost all provinces of Poland causing significant damage to the farming sector, to public infrastructure and transport networks. Parts of southeastern Podkarpacie Province reported up to 1,300 landslides. According to the Chancellery of the Prime Minister, nearly 124,000 farms, covering the area of nearly 780,000 hectares, were flooded or deluged in 2010. Therefore, the Polish Government drew up a special support plan for the farmers. In June 2010, it passed a resolution regarding the support program for rural families whose households and special production facilities were damaged by the flood or landslides. About 40% of Poland's hop strobile (*Humulus lupulus*) crop was destroyed.

REPUBLIC OF ROMANIA

During June and July 2010 most of Romania was affected by heavy flooding and/or landslides. The disaster caused significant damage to infrastructure and to the agricultural sector. The 2010 floods inundated about 110,000 hectares of agricultural land. Flash floods damaged 3000 houses, 4130 km of national and regional roads as well as 700 bridges.

Table 1 lists selected important medicinal and aromatic plants (MAPs) that are produced in one or more of the listed European countries including Bosnia and Herzegovina (BIH), Bulgaria (BGR), Croatia (HRV), Germany (DEU), Hungary (HUN), Poland (POL), and Romania (ROU).

Table 1: Important European Medicinal and Aromatic Plants in Trade: Bosnia and Herzegovina (BIH), Bulgaria (BGR), Croatia (HRV), Germany (DEU), Hungary (HUN), Poland (POL), Romania (ROU)

Common Name and Botanical Name	BIH	BGR	HRV	DEU	HUN	POL	ROU
Agrimony herb (<i>Agrimonia eupatoria</i>)		X	X		X		
Angelica root (<i>Angelica archangelica</i>)			X			X	
Anise fruit (<i>Pimpinella anisum</i>)							X
Arnica flower (<i>Arnica montana</i>)	X			X		X	X
Artichoke leaf (<i>Cynara scolymus</i>)				X		X	X
Barberry root (<i>Berberis vulgaris</i>)	X		X				
Basil leaf (<i>Ocimum basilicum</i>)				X			
Bilberry fruit and leaf (<i>Vaccinium myrtillus</i>)	X	X	X			X	X
Birch flower and leaf (<i>Betula</i> spp.)	X		X			X	X
Bistort root (<i>Polygonum bistorta</i>)	X						
Blackberry leaf (<i>Rubus fruticosus</i>)			X			X	
Black currant leaf (<i>Ribis nigrum</i>)					X	X	X
Black locust flower (<i>Robinia pseudoacacia</i>)	X					X	
Black mustard seed (<i>Brassica nigra</i>)						X	X
Burdock root (<i>Arctium lappa</i>)	X	X	X		X	X	X
Burnet saxifrage root (<i>Pimpinella saxifraga</i>)						X	
Calamus root (<i>Acorus calamus</i>)						X	
Calendula flower (<i>Calendula officinalis</i>)	X						X
Caraway fruit (<i>Carum carvi</i>)				X		X	X
Carob fruit (<i>Ceratonia siliqua</i>)			X				
Centauray herb (<i>Centaureum erythraea</i>)						X	
Chamomile flower, German (<i>Matricaria recutita</i>)	X	X	X	X	X	X	
Chamomile flower, Roman (<i>Chamaemelum nobile</i>)	X						
Chaste tree fruit (<i>Vitex agnus-castus</i>)	X		X				
Club moss (<i>Lycopodium clavatum</i>)	X						
Coltsfoot leaf (<i>Tussilago farfara</i>)	X	X	X			X	
Comfrey leaf & root (<i>Symphytum officinale</i>)	X		X		X	X	X
Coriander fruit (<i>Coriandrum sativum</i>)		X		X	X	X	X
Cornflower (<i>Centaurea cyanus</i>)			X		X	X	
Cowslip flower and root (<i>Primula veris</i>)	X	X					
Damask rose flower (<i>Rosa damascena</i>)							
Dandelion herb and root (<i>Taraxacum officinale</i>)	X		X		X	X	X
Dill fruit (<i>Anethum graveolens</i>)		X		X	X		X
Dyer's broom herb (<i>Genista tinctoria</i>)			X				
English plantain herb and leaf (<i>Plantago lanceolata</i>)	X		X	X		X	X
English walnut bark (<i>Juglans regia</i>)	X						
European ash leaf (<i>Fraxinus excelsior</i>)	X						
European elder flower and fruit (<i>Sambucus nigra</i>)	X	X	X	X	X	X	X
Fennel fruit (<i>Foeniculum vulgare</i>)		X		X	X	X	X
Frangula bark (<i>Frangula alnus</i>)	X					X	
Gentian root (<i>Gentiana lutea</i>)	X						
Goat's rue herb (<i>Galega officinalis</i>)					X		
Hawthorn fruit, leaf, flower (<i>Crataegus</i> spp.)	X	X	X		X	X	X
Heather flower (<i>Calluna vulgaris</i>)			X			X	
Heartsease flower and herb (<i>Viola tricolor</i>)	X						
Hop strobile (<i>Humulus lupulus</i>)	X		X	X		X	X
Horse chestnut seed (<i>Aesculus hippocastanum</i>)	X		X		X	X	X
Horsetail herb (<i>Equisetum arvense</i>)			X			X	
Iceland moss (<i>Cetraria islandica</i>)	X	X				X	X
Ivy leaf (<i>Hedera helix</i>)	X					X	
Juniper fruit (<i>Juniperus communis</i>)	X		X		X		X
Khella fruit (<i>Ammi visnaga</i>)						X	
Lavender flower (<i>Lavandula officinalis</i>)	X	X			X		
Lemon balm leaf (<i>Melissa officinalis</i>)	X	X		X		X	X
Linden flower (<i>Tilia</i> spp.)	X	X	X		X	X	X
Lovage root (<i>Levisticum officinale</i>)						X	
Lungwort lichen (<i>Lobaria pulmonaria</i>)	X						
Mallow flower and leaf (<i>Malva sylvestris</i>)	X		X				
Marshmallow leaf and root (<i>Althaea officinalis</i>)	X	X	X		X	X	
Meadowsweet flower and herb (<i>Filipendula ulmaria</i>)	X				X	X	

Common Name and Botanical Name	BIH	BGR	HRV	DEU	HUN	POL	ROU
Milk thistle fruit (<i>Silybum marianum</i>)		X		X	X	X	X
Mistletoe herb (<i>Viscum album</i>)	X	X	X		X		
Motherwort herb (<i>Leonurus cardiaca</i>)						X	
Mugwort herb (<i>Artemisia vulgaris</i>)			X		X	X	
Mullein (<i>Verbascum thapsus</i>)			X				
Nettle leaf and root (<i>Urtica dioica</i>)	X	X	X		X	X	
Oak bark (<i>Quercus robur</i>)	X		X				
Oak moss (<i>Evernia prunastri</i>)	X						
Orris root (<i>Iris germanica</i>)	X						
Parsley leaf (<i>Petroselinum crispum</i>)				X			
Peppermint leaf (<i>Mentha x piperita</i>)	X	X		X		X	X
Ramsons leaf (<i>Allium ursinum</i>)	X						X
Raspberry leaf (<i>Rubus idaeus</i>)	X	X	X			X	X
Rose hips (<i>Rosa canina</i>)	X	X	X		X	X	X
Rosemary leaf (<i>Rosmarinus officinalis</i>)	X						
Rue herb (<i>Ruta graveolens</i>)	X						
Sage leaf (<i>Salvia officinalis</i>)	X	X	X	X	X		X
Sea buckthorn fruit (<i>Hippophae rhamnoides</i>)				X		X	X
Sloe flower (<i>Prunus spinosa</i>)		X			X		
St. John's Wort herb (<i>Hypericum perforatum</i>)	X	X	X	X	X	X	X
Strawberry leaf (<i>Fragaria leaf</i>)	X		X				
Sweet marjoram herb (<i>Origanum majorana</i>)		X		X	X	X	X
Sweet violet flower and herb (<i>Viola odorata</i>)	X					X	
Tansy herb (<i>Tanacetum vulgare</i>)	X						
Thyme herb (<i>Thymus vulgaris</i>)		X		X	X	X	X
Uva ursi leaf (<i>Arctostaphylos uva-ursi</i>)	X					X	
Valerian root (<i>Valeriana officinalis</i>)	X	X	X	X		X	
White nettle flower (<i>Lamium album</i>)						X	
Wild thyme herb (<i>Thymus serpyllum</i>)	X						
Willow bark (<i>Salix spp.</i>)	X	X	X	X	X		X
Wormwood herb (<i>Artemisia absinthium</i>)		X	X		X		X
Yellow sweetclover herb (<i>Melilotus officinalis</i>)					X		
Yarrow herb (<i>Achillea millefolium</i>)	X				X	X	X
Yellow chaste weed flower (<i>Helichrysum arenarium</i>)	X		X			X	

BOTANICAL PRODUCT SPECIFICATIONS

European Elder flower

a product of Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Germany, Hungary, Poland,
Romania, and Russian Federation

PRODUCT	
Product	Elder Flower PhEur ⁷
Botanical name	<i>Sambucus nigra</i> L. (Fam. Caprifoliaceae)
Pharmacopoeial name	Sambuci flos
Part used	Dried flowers
Cultivated or wild	Wild collected
Storage	Store protected from moisture
IDENTIFICATION	
Macroscopic	PhEur Elder Flower Monograph ID Test A
Microscopic	PhEur Elder Flower Monograph ID Test B
Thin-layer chromatography	PhEur Elder Flower Monograph ID Test C
TESTS	
Foreign matter	NMT 8% of fragments of coarse pedicels and other foreign matter and NMT 15% of discolored, brown flowers. (PhEur 2.8.2)
Loss on drying	NMT 10.0% (PhEur 2.2.32)
Total ash	NMT 10.0% (PhEur 2.4.16)
Content	NLT 0.80% of flavonoids, expressed as isoquercitroside (dried drug)
CONTAMINATION	
Microbial enumeration limits for herbal drugs and their preparations to which boiling water is added before use	
Aerobic bacteria	10 ⁷ cfu/g
Molds and yeasts	10 ⁴ cfu/g
<i>Escherichia coli</i>	10 ² cfu/g
<i>Salmonella</i>	Not detected
Heavy metals	NMT 1.0 ppm cadmium NMT 5.0 ppm lead NMT 0.1 ppm mercury
Pesticide residues	Meets the requirements PhEur General Chapter 2.8.13
THERAPEUTIC USE	
Herbal Tea, Tincture or Fluidextract	Herbal medicinal product traditionally used for the relief of early symptoms of common cold. ⁸

⁷ European Pharmacopoeial Commission. Elder flower. In: *European Pharmacopoeia*, 7th edition (PhEur 7.0). Strasbourg, France: European Directorate for the Quality of Medicines (EDQM). 2010;1117-1118.

⁸ European Medicines Agency (EMA) Committee on Herbal Medicinal Products (HMPC). Final Community Herbal Monograph on *Sambucus nigra* L., Flos. London, UK: EMA. 03 July 2008. Available at: http://www.ema.europa.eu/docs/en_GB/document_library/Herbal_-_Community_herbal_monograph/2009/12/WC500018233.pdf

BOTANICAL EXTRACTS (Indicative bulk prices)

Product	Standard	Price USD/kg	Basis
Bilberry fruit extract (<i>Vaccinium myrtillus</i>)	25% anthocyanins	700-800	FOB USA
Ginkgo leaf dry extract (<i>Ginkgo biloba</i>)	min 24% ginkgo flavone glycosides; 2.6-3.2% bilobalide; 2.8-3.4% ginkgolides A, B & C	175-275	FOB USA
Maritime pine dry extract (<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	75-150	FOB USA
Nettle root dry extract (<i>Urtica dioica</i>)	min 30 ppm scopoletin, min 0.8% β -sitosterol	65-85	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 acid	60-75	FOB USA

Notes:

- (1) **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).
- (2) The 2010 harvest of wild Bilberry fruit was bad, driving market prices up.

MEETINGS AND TRADE SHOWS EUROPEAN COUNTRIES

March 23-24, 2011

PHYTOPHARMAKA-SYMPIOSIUM 2011

Venue: Holiday Inn Munich City Center, Munich Germany
 Contact: Concept Heidelberg GmbH, Dr. Günter Brendelberger
 TEL: +49 (0) 62 21 / 84 44 40 / FAX: +49 (0) 62 21/84 44 34
 E-Mail: info@concept-heidelberg.de, brendelberger@concept-heidelberg.de
 WEB: http://www.gmp-navigator.com/nav_seminar_6857.html

Symposium topics of relevance to producers and suppliers of medicinal plants include registration of (traditional) herbal medicinal products, European Community Herbal monographs, methods and stability testing.

March 29-31, 2011

IN-COSMETICS

Venue: Fiera Milano Halls 1-3, Milan, Italy
 Organisers: Reed Exhibitions, part of Reed Elsevier
 Contact: Exhibition Director: Lucy Gilliam
 TEL: +44 (0) 20 8910 7740
 WEB: <http://www.in-cosmetics.com>

This event brings together cosmetic suppliers, R&D production and marketing specialists to showcase cosmetic ingredients and services. This year is the 20th anniversary of In-Cosmetics. Exhibitors offering botanical ingredients made from medicinal and aromatic plants include, among others: Beraca, Bio-Botanica, Burgundy, C.E. Roeper GmbH, Diana Naturals, Earthoil Plantations Ltd., Flavex Naturextrakte GmbH, Frutarom Ltd., GfN Herstellung von Naturextrakten GmbH, Indena SpA, Maruzen Pharmaceuticals Co. Ltd., and Naturex.

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 kn 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>

Objectives:

- 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.

May 5, 2011

THE BEAUTY OF SOURCING WITH RESPECT:

Strategic Importance of Biodiversity for the Beauty Industry

Venue: Paris, France
Organizer: Union for Ethical BioTrade (UEBT)
Contact: TEL: +41 22 566 1585 / FAX: +41 22 731 0340
E-MAIL: info@ethicalbiotrade.org
WEB: <http://www.uebt.ch>

This conference targets cosmetics, personal care, and food companies that are sourcing natural ingredients and that are facing marketing, sourcing, research and development, sustainability or corporate social responsibility. Topics include:

- Marketing biodiversity: towards win-win strategies
- 2010 International Year of Biodiversity and consumer awareness
- The 2011 UEBT Biodiversity Barometer
- Developments on Access and Benefit Sharing: The Nagoya Protocol, Benefit Sharing in Practice

May 10-12, 2011

VITAFOODS EUROPE 2011

Venue: Geneva Palexpo, Switzerland
Organizer: IIR Exhibitions, 5th Floor, 29 Bressenden Place, London SW1E 5EW, U.K.
Contacts: Peter Hall, Managing Director, TEL:+44(0)20.701 77795; FAX:+44(0)20.701 77818
E-MAIL: vitafoods@iirx.co.uk
WEB: <http://www.vitafoods.eu.com>

Exhibitor profile: Suppliers of botanical raw materials and extracts, essential oils and oleoresins, phytochemicals, algae, nutraceutical and cosmeceutical ingredients, nutritional and functional food ingredients, and OTC pharmaceutical ingredients.

May 23 – 27, 2011

6TH PLANTA EUROPA CONFERENCE; ACTIONS FOR WILD PLANTS

Venue: International Cultural Centre, Kraków Poland
Organizers: Planta Europa, the Committee of Nature Protection, Polish Academy of Sciences, W. Szafer Institute of Botany, Polish Academy of Sciences.
Contact: TEL: +48 12 4241737 / FAX: +48 12 4219790
E-MAIL: 6PEC@botany.pl
WEB: <http://plantaeuropa.meetings.pl>

Conference theme: Major issues of the wild plant conservation at the European, country and regional levels. The main axis of the conference will be based on the targets of the European Strategy for Plant Conservation (ESPC) published by Planta Europa in 2008 and will provide the updated framework and directions for plant conservation in Europe. One of Europa's main targets is to identify best practice for conservation and sustainable use of medicinal and other socio-economically important plants, and to promote this information to relevant policy makers.

May 24-27, 2011

INTERNATIONAL CONFERENCE ON NATURAL PRODUCTS

Venue: Institut Universitaire de Technologie à Castres, Toulouse, France
Contact: Universite Toulouse III-Paul Sabatier, 118 route de Narbonne 31062, Toulouse Cedex 9; TEL: +33 (0) 5 61 55 66 11
E-MAIL: patrick.sharrock@iut-tise3.fr
WEB: <http://www.naturalproducts.fr/1.html>

Conference topics: Extraction processes, analytical techniques, quality control of natural products, formulation and properties of natural-product-based compositions, synthesis and properties of natural products and testing.

July 6-9, 2011

I INTERNATIONAL SYMPOSIUM ON MEDICINAL, AROMATIC AND NUTRACEUTICAL PLANTS FROM MOUNTAINOUS AREAS

Venue: Congress Centre "Steinmatte"
Contact: Dr. Christoph Carlen, Agroscope Changins-Wädenswil ACW, Department Head, Centre des Fougères, 1964 Conthey, Switzerland
TEL: +41 27 345 35 11 / FAX: +41 27 346 30 17
EMAIL: christoph.carlen@acw.admin.ch
WEB: <http://www.agroscope.admin.ch/mapmountain>

July 29, 2011

INTERNATIONAL HOP GROWERS CONVENTION (IHGC) MEETING OF THE ECONOMIC COMMISSION AND EXECUTIVE COMMITTEE

Venue: Prague, Czech Republic
Organizers: International Hop Growers Convention
Contact: IHGC Secretariat Dr. Martin Pavlovic, Malgajeva 18, SI-3000 Celje Slovenia.
TEL: +386 3 712 16 00 / FAX: +386 3 712 16 20.
E-MAIL: martin.pavlovic@ihps.si
WEB: <http://www.hmelj-giz.si/ihgc/act.htm>

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 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>

Although primarily a food show there will be some exhibitors of natural botanical ingredients at Anuga.
Exhibitor Profile: Includes the following suppliers of natural ingredients, among others:

Company	Country	Website
Adamexpo	Sri Lanka	http://www.adamexpo.net
Afriplex	South Africa	http://www.afriplex.co.za
Agrim Industries Ltd.	Indonesia	http://www.agrimltd.com
Alba Gewürze Gehring & Neiweiser GmbH + Co. KG	Germany	http://www.alba-gewuerze.de/#
Aryan International	India	http://www.aryanint.com
Chee Seng Oil Factory Pte Ltd	Singapore	http://www.cheeseng-oil.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
MA's Tropical Food Processing (PVT) Ltd.	Sri Lanka	http://www.masfoods.lk
Mama Africa's (Banditos Chile Co. Pty Ltd.)	South Africa	http://www.banditos.co.za
NATIONAL MASALA MILLS REGD	India	http://www.kanwalspices.com
Ölmühle Solling GmbH	Germany	http://www.oelmuehle-solling.de
Pepper-King e.K.	Germany	http://www.pepperking.com
S.A. Silva & Sons Lanka (Pvt) Ltd.	Sri Lanka	http://www.silvermillgroup.com
Shama Food Industries	United Arab Emirates	http://www.ameinfo.com/147957.html
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.vkispices.com
Vilux SN	France	http://www.vilux.com
Zhejiang Medicines & Health Products I/E., LTD.	China	http://www.zhejiang-pharma.com

October 15-17, 2011

NATEXPO TRADE SHOW

Venue: Paris Nord Villepinte, Hall 8, France
Organizers: Federation Francaise de la Dietetique & Comexpo Paris
Contact: Roger Serrault, Fair Chairman; TEL/FAX: +33 (0)1 47 75 03 09
E-MAIL: info@federation-dietebio.org
WEB: <http://www.natexpo.com>

Exhibitor Profile: While mainly an expo for finished products, there will also be a suppliers' marketplace for exhibitors of raw materials, processing and packaging.

Visitor profile: Natural product manufacturers, wholesalers, distributors, organic and health food retailers, medical professionals, import-export representatives.

October 19-21, 2011

COSMETHICA: INTERNATIONAL CONGRESS ON RAW MATERIALS IN COSMETICS

Venue: Palais des Congrès, 22, Cours Honoré Cresp - 06130 GRASSE France
Contact: Geneviève JUGE, Organising Committee
TEL: +33 (0)4 92 42 34 08 / FAX: +33 (0)4 92 42 34 01
E-MAIL: contact@cosmethica-grasse.com
WEB: <http://www.cosmethica-grasse.com>

October 25-27, 2011

CPhI WORLDWIDE

Venue: Messe Frankfurt, Germany
Organizer: UBM Information Ltd
Contact: TEL: +31 20 40 99 544 / FAX : +31 20 36 32 616
E-Mail: cphi@ubm.com
WEB: <http://www.cphi.com>

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

- 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>
- Linnea SA <http://www.linnea-worldwide.com>
- Naturex <http://www.naturex.com>

November 6-10, 2011

IFEAT 2011 CONFERENCE:

Bridging Continents and Cultures

Venue: Barcelona, Spain
Organizer: The International Federation of Essential Oils and Aroma Trades (IFEAT),
9 Lincoln's In Fields, London, WC2A 3BP, UK.
Contact: TEL: +44 (0) 20 7814 9666 / FAX: +44 (0) 20 7814 8383
E-MAIL: events@ifeat.org
WEB: <http://www.ifeat.org>

Conference theme:

- Spain as a bridging country for Latin America
- Market trends in Spanish and Portuguese-speaking countries
- Barcelona as a logistical centre for developing business between Europe, North African, and the Americas
- Regulatory, legislative and sustainability issues in Europe and the Americas
- Developments in the citrus and aroma chemical sectors

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>

November 13-15, 2012

HEALTH INGREDIENTS EUROPE & NATURAL INGREDIENTS 2012

Venue: Messe Frankfurt, Germany
Organizer: CMP Information, a division of United Business Media
Contact: CMP Information, PO Box 200, 3600 AE Maarssen, The Netherlands
TEL: + 31 346 559 444 / FAX: + 31 346 573 811
E-MAIL: Fi@cmpi.biz
WEB: <http://hieurope.ingredientsnetwork.com/>

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

INDIA and other Asian Countries

Medicinal Plant Supply Chain Uncertainty associated with Natural Disasters, Popular Uprisings, Wars and the Weather

Medicinal and aromatic plant production and trade in many Asian countries has been interrupted occasionally and significantly in recent years and months, not only due to major natural disasters and apparent climate change, but most notably due to popular uprisings, border disputes, civil wars and international wars, all contributing to supply chain uncertainty through their ecological, economical, political and social impacts. Generally this includes:

- natural disasters and/or wars in **Southern Asian countries** including in the Democratic Socialist Republic of Sri Lanka, Federal Democratic Republic of Nepal, Islamic Republic of Afghanistan, Islamic Republic of Iran, and Islamic Republic of Pakistan; and
- popular uprisings and/or wars in **Western Asian countries** including in the Kingdom of Bahrain, Lebanese Republic, Occupied Palestinian Territory, Republic of Iraq, Republic of Yemen, State of Israel, Syrian Arab Republic, and Sultanate of Oman.

Here is a summary of significant events in selected Southern and Western Asian countries that may be contributing to uncertainty in the supply of some medicinal plants from this region.

- **Islamic Republic of Afghanistan:** This country's ecology, economy and people have suffered greatly and the Afghan botanical trade has been disrupted considerably for at least three decades. Before the wars, Afghanistan had been a major producer and trader of asafetida oleo-gum-resin (*Ferula assa-foetida*), cumin seed (*Cuminum cyminum*), hollyhock flower (*Alcea rosea*), licorice root (*Glycyrrhiza glabra*), and pomegranate fruit (*Punica granatum*), among others. The nearly ten-year Soviet War in Afghanistan began with the Soviet invasion in October 1979 in which the Afghan Mujahedeen resistance was supported by the United States and United Kingdom. After the war ended, subsequent civil war continued and the capital Kabul finally fell to the Taliban in 1996. The current war, in its tenth year (2001-present), to overthrow the Taliban started with the October 2001 invasion by the U.S. and U.K. Future sustainable trade remains uncertain. Many licorice wild collection areas remain unsafe for prospective foreign buyers or certification inspectors to even visit. According to a U.S. Department of State Travel Warning of 08 March 2011, the security threat to all U.S. citizens in Afghanistan remains critical and the potential exists throughout Afghanistan for hostile acts, either targeted or random, against U.S. and other Western nationals at any time.
- **Islamic Republic of Iran:** In recent years the Iranian export trade has had to contend with economic and trade sanctions imposed by many potential customers including Australia, Canada, the European Union, Israel, Japan, Switzerland, and the United States. Iran is the world's leading producer and exporter of pomegranate (*Punica granatum*) and saffron (*Crocus sativus*). Severe droughts and poor yields in recent years have also led to saffron shortages, adulteration and skyrocketing prices. Additionally, massive popular protests following the disputed 2009 Iranian Presidential election and the ongoing 2011 Iranian protests led by the opposition Green Movement contribute to an uncertain trade environment for the medicinal plant sector.
- **Islamic Republic of Pakistan:** Reconstruction following the devastating 2010 floods is expected to take up to five years. In 2010 Pakistan suffered the worst flooding in the country's history putting about one-fifth of the country's total land area under water. The flooding destroyed many of the same areas in Northern Pakistan that were still undergoing reconstruction following the October 2005 magnitude 7.6 earthquake that killed at least 86,000 people, left about 4 million homeless and destroyed roads and entire villages. Now nearly 20 million people are affected by the severe flooding of 2010 which caused extensive damage to housing, infrastructure and crops throughout Pakistan. More than 1,750 people were killed and about 10 million people left homeless. More than 2 million hectares of crops were destroyed. All regions of Pakistan were hit hard including areas in the Provinces of Baluchistan (which borders Afghanistan and Iran), Khyber Pakhtunkhwa (borders Afghanistan), Punjab (borders India) and Sindh (borders India), as well as in the Administrative Units of Gilgit-Baltistan (borders Afghanistan, China, and Indian-administered Jammu & Kashmir) and Pakistan Administered Kashmir. Some important medicinal plant crops that were actually harvested in 2010 could not be transported to markets or trading centers due to collapse or destruction of roads, rails and bridges that were swept away. Adding to

the enormity of the flooding disaster, Pakistan continues to host one of the largest refugee populations in the world with about 1.7 million refugees mostly from neighboring Afghanistan. And as the War in Afghanistan has spilled over into Pakistan, the Al-Qaida and Taliban organizations pose a potential danger to foreigners throughout Pakistan making it potentially unsafe for prospective export trade partners and certification inspectors to visit Pakistani herb collection sites. Furthermore access to many areas of Pakistan, including the Federally Administered Tribal Areas (FATA) along the Afghan border and the area adjacent to the Line of Control (LOC) in the disputed territory of Kashmir, is restricted for non-Pakistanis. The socio-political and security situation in Pakistan remain unstable contributing to an uncertain export trade environment for the time being.

- **Republic of Iraq:** War has ravaged this country's economy and trade for over three decades. Iraq invaded its neighbor the Islamic Republic of Iran in 1980 and fought the longest war of the 20th century until 1988 (with economic, military and technological support from the United States). Two years after the end of the eight-year war with Iran, another neighbor was invaded, this time the State of Kuwait which triggered an invasion by a U.S. led coalition in January of 1991. The UN Resolution 661 (of 1990) implemented international sanctions against Iraq deciding that all states should prevent the import of all products and commodities originating in Iraq. From 1991 to 2003 the trade embargo continued to devastate Iraq's economy. The current war known as the Second Gulf War began in 2003 with the invasion of Iraq by a coalition of forces mainly from the U.S. and the U.K. resulting in the overthrow of the Iraqi government and the ongoing occupation. The U.N. sanctions have since been lifted but it may take many years before Iraq can reconstruct its medicinal and aromatic plant trade. In 2011, no regions of Iraq are yet considered to be safe from dangerous conditions (e.g. explosions, kidnappings, criminal attacks). Violence and threats against foreigners persist which makes business visits to herb collection sites by prospective foreign buyers or certification inspectors unsafe.
- **Republic of Yemen:** As of April 2011, a high security threat level exists due to escalating civil unrest in Yemen, a major supplier of frankincense (*Boswellia* spp.) and myrrh (*Commiphora* spp.). In a popular uprising, nationwide protests began on 18 January 2011 with tens of thousands of protesters demanding the resignation of President Ali Abdullah Saleh. A State of Emergency has been declared by Yemeni authorities, which is expected to stay in force through much of April 2011. Most countries have strongly warned their citizens living in Yemen to depart immediately.
- **Syrian Arab Republic:** In late January 2011 demonstrations began and by March 2011 massive anti-government protests spread throughout the country. On 29 March the government resigned hoping to quell the unrest but protests have continued into April. Most countries have issued warnings urging their citizens presently in Syria to depart due to the ongoing political and civil unrest. Syria has operated under a controversial "State of Emergency" law for nearly 50 years. Impact on the 2011 production and trade of Syrian medicinal and aromatic plants is not known. Syria's main botanical exports include coriander fruit (*Coriandrum sativum*), cumin seed (*Cuminum cyminum*), and anise fruit (*Pimpinella anisum*) as well as Syrian oregano (*Origanum syriacum*) and three-lobed sage (*Salvia fruticosa*).

Table 1 lists selected important medicinal and aromatic plants (MAPs) that are produced in the above-listed Asian countries that are presently in the midst of significant transition.

Table 1: Important Central and Western Asian Medicinal and Aromatic Plants: AFG (Afghanistan), IRQ (Iraq), IRN (Iran), JOR (Jordan), PAK (Pakistan), SYR (Syria), YEM (Yemen)

Common Name and Botanical Name	AFG	IRQ	IRN	JOR	PAK	SYR	YEM
Ajowan fruit (<i>Trachyspermum ammi</i>)	X		X		X		X
Alkanet root (<i>Alkanna tinctoria</i>)	X			X	X	X	
Aloe (<i>Aloe perryi</i>)							X
Anise fruit (<i>Pimpinella anisum</i>)			X			X	
Apricot kernel (<i>Prunus armeniaca</i>)	X				X		
Asafetida oleo-gum-resin (<i>Ferula assa-foetida</i>)	X	X	X		X		
Ashwagandha root (<i>Withania somnifera</i>)		X	X		X	X	X
Basil leaf (<i>Ocimum basilicum</i>)			X	X	X		
Bay leaf (<i>Laurus nobilis</i>)						X	
Bistort rhizome (<i>Polygonum bistorta</i>)					X		
Burdock root (<i>Arctium lappa</i>)	X	X	X				
Calendula flower (<i>Calendula officinalis</i>)			X				
Caraway fruit (<i>Carum carvi</i>)	X	X	X		X	X	
Carob fruit (<i>Ceratonia siliqua</i>)						X	
Celery fruit (<i>Apium graveolens</i>)		X	X	X	X		
Chamomile flower (<i>Matricaria recutita</i>)			X		X	X	
Chebolic myrobalan fruit (<i>Terminalia chebula</i>)			X		X		
Chicory herb and root (<i>Cichorium intybus</i>)	X	X	X			X	
Clary sage (<i>Salvia sclarea</i>)						X	
Coriander fruit (<i>Coriandrum sativum</i>)	X		X	X	X	X	X
Couch grass (<i>Elymus repens</i>)		X			X		
Cumin seed (<i>Cuminum cyminum</i>)	X		X		X	X	X
Damascus hollyhock (<i>Alcea damascena</i>)						X	
Damask rose flower (<i>Rosa damascena</i>)			X			X	
Dill fruit & weed (<i>Anethum graveolens</i>)	X	X	X	X	X		
East Indian screw fruit, root (<i>Helicteres isora</i>)					X		
Ephedra stem (<i>Ephedra intermedia</i> , <i>E. procura</i>)	X		X		X		
Fennel fruit (<i>Foeniculum vulgare</i>)	X	X	X		X	X	
Fenugreek seed (<i>Trigonella foenum-graecum</i>)					X		
Fig fruit (<i>Ficus carica</i>)	X	X	X		X	X	
Frankincense oleo-gum-resin (<i>Boswellia sacra</i>)							X
Great pignut fruit (<i>Bunium periscum</i>)	X		X		X		
Guggul oleo-gum-resin (<i>Commiphora mukul</i>)					X		
Henna leaf (<i>Lawsonia inermis</i>)		X	X		X	X	X
Hollyhock flower (<i>Alcea rosea</i>)	X				X		
Horse chestnut (<i>Aesculus hippocastanum</i>)			X				
Horse mint (<i>Mentha longifolia</i>)	X	X	X		X	X	
Hyssop herb (<i>Hyssopus officinalis</i>)			X		X		
Indian colchicum (<i>Colchicum luteum</i>)	X		X		X		
Indian madder (<i>Rubia cordifolia</i>)	X		X		X		
Indian rennet fruit (<i>Withania coagulans</i>)	X		X		X		
Indian rhubarb root (<i>Rheum australe</i>)					X		
Indian valerian root (<i>Valeriana wallichii</i>)					X		
Jujube fruit (<i>Ziziphus jujuba</i>)	X		X		X		
Juniper fruit (<i>Juniperus communis</i>)	X				X		
Khat leaf (<i>Catha edulis</i>)							X
Licorice root (<i>Glycyrrhiza glabra</i>)	X		X		X	X	
Lovage (<i>Levisticum officinale</i>)	X		X				
Mallow flower and leaf (<i>Malva sylvestris</i>)			X		X	X	
Marshmallow flower, leaf, root (<i>Althaea officinalis</i>)	X		X		X		
Myrrh gum (<i>Commiphora</i> spp.)							X
Myrtle (<i>Myrtus communis</i>)			X	X		X	
Neem (<i>Azadirachta indica</i>)					X		
Nigella seed (<i>Nigella sativa</i>)	X	X	X		X	X	X
Opium poppy seed (<i>Papaver somniferum</i>)	X				X		
Origanum, Spanish type (<i>Coridothymus capitatus</i>)				X		X	
Orris root (<i>Iris germanica</i>)			X		X		
Parsley leaf (<i>Petroselinum crispum</i>)				X	X		
Peelu branch (<i>Salvadora persica</i>)				X	X	X	X
Pomegranate fruit (<i>Punica granatum</i>)	X		X	X	X		
Psyllium husk & seed (<i>Plantago ovata</i>)			X		X		

Common Name and Botanical Name	AFG	IRQ	IRN	JOR	PAK	SYR	YEM
Safflower flower (<i>Carthamus tinctorius</i>)	X	X	X		X		
Saffron stigma (<i>Crocus sativus</i>)	X		X		X		
Sea buckthorn fruit (<i>Hippophae rhamnoides</i>)	X		X		X		
Senna leaf and pod (<i>Cassia acutifolia</i>)				X	X		X
Sicilian sumac fruit (<i>Rhus coriaria</i>)	X	X	X	X		X	
Silver linden (<i>Tilia argentea</i>)				X			
Soapwort root (<i>Saponaria officinalis</i>)			X				
Spanish lavender flower (<i>Lavandula stoechas</i>)		X	X			X	
Spanish pellitory root (<i>Anacyclus pyrethrum</i>)	X				X	X	
Spearmint leaf (<i>Mentha spicata</i>)				X		X	
Summer savory herb (<i>Satureja hortensis</i>)	X		X				
Sweet marjoram herb (<i>Origanum majorana</i>)			X	X	X		
Syrian oregano (<i>Origanum syriacum</i>)				X		X	
Syrian rue seed (<i>Peganum harmala</i>)	X	X	X	X	X		
Three-lobed sage (<i>Salvia fruticosa</i>)						X	
Thyme herb (<i>Thymus vulgaris</i>)				X			
Yarrow herb (<i>Achillea millefolium</i>)	X		X		X		

BOTANICAL PRODUCT SPECIFICATIONS
Myrrh Gum Resin
a product of Yemen

PRODUCT	Myrrh PhEur⁹
Botanical name	<i>Commiphora molmol</i> Engler and/or other species of <i>Commiphora</i> (Fam. Burseraceae)
Pharmacopoeial name	Myrrha PhEur
Part used	Gum-resin, hardened in air, obtained by incision or produced by spontaneous exudation from the stem and branches
Cultivated or wild	Wild collected
Storage	Store protected from moisture
IDENTIFICATION	
Characters	Bitter taste
Macroscopic	PhEur Myrrh Monographic ID Test A
Microscopic	PhEur Myrrh Monographic ID Test B
Thin-layer chromatography	PhEur Myrrh Monographic ID Test C
TESTS	
Loss on drying	NMT 15.0% (PhEur 2.2.32)
Total ash	NMT 7.0% (PhEur 2.4.16)
Matter insoluble in ethanol	NMT 70 per cent
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 USES¹⁰	
Herbal preparation in liquid dosage forms for oromucosal or cutaneous use	(1) Traditional herbal medicinal product for treatment of minor ulcers and inflammation in the mouth (stomatitis and gingivitis). (2) Traditional herbal medicinal product for treatment of minor wounds and small boils (furuncles).

⁹ European Pharmacopoeial Commission. Myrrh. In: *European Pharmacopoeia*, 7th edition (PhEur 7.0). Strasbourg, France: European Directorate for the Quality of Medicines (EDQM). 2010;1192.

¹⁰ European Medicines Agency (EMA) Committee on Herbal Medicinal Products (HMPC). Draft Community Herbal Monograph on *Commiphora molmol* Engler, gummi-resina. London, UK: European Medicines Agency. 12 September 2010. Available at: http://www.ema.europa.eu/docs/en_GB/document_library/Herbal_Community_herbal_monograph/2010/11/WC500098928.pdf

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

Product	Botanical Name	Cult/Wild	Origin	Price per kg	Basis
Amla fruit	<i>Phyllanthus emblica</i>	Wild/Cult.	Nepal	NPR 70-75	Kathmandu/Nepalgunj
Amla fruit (dried)	<i>Phyllanthus emblica</i>	Wild/Cult	India	INR 45-70	Solan/Mandi/Ahmedabad/ Amritsar/Nagaon/Kolkata
Ashwagandha root	<i>Withania somnifera</i>	Cult/Wild	India	INR 100-120	Nagaon/Kolkata/Bhopal/ Trichur/Bangalore/Bokaro
Bacopa herb (Brahmi patra)	<i>Bacopa monnieri</i>	Wild	India	INR 38-90	Delhi/Ahmedabad/Amritsar/ Virudhunagar/Kolkata/Mand
Belleric myrobalan fruit (without seed) (Barro)	<i>Terminalia bellerica</i>	Wild/Cult.	Nepal	NPR 30	Kathmandu
Cardamom seed, small	<i>Elettaria cardamomum</i>	Cultivated	India	INR 1134.01	Vandanmettu/Bodinayakanur
Chebolic myrobalan fruit (without seed) (Harro)	<i>Terminalia chebula</i>	Wild	Nepal	NPR 35	Kathmandu
Chirata herb, (Chiretta)	<i>Swertia chirayita</i>	Cult/Wild	Nepal	NPR 350-390	Kathmandu/Nepalgunj
Cinnamon bark (Dalchini)	<i>Cinnamomum zeylanicum</i>	Cultivated	Nepal	NPR 70	Nepalgunj
Clove flower bud	<i>Syzygium aromaticum</i>	Cultivated	India	INR 325	Cochin
Coriander fruit	<i>Coriandrum sativum</i>	Cultivated	India	INR 48.5-54.5	Mumbai
Cumin seed	<i>Cuminum cyminum</i>	Cultivated	India	INR 132-142	Mumbai
Fennel fruit	<i>Foeniculum vulgare</i>	Cultivated	India	INR 116.25	Mumbai
Fenugreek seed	<i>Trigonella foenum-graecum</i>	Cultivated	India	INR 31	Mumbai
Garlic bulb, medium	<i>Allium sativum</i>	Cultivated	India	INR 167.5	Mumbai
Ginger rhizome	<i>Zingiber officinale</i>	Cultivated	India	INR 136-153	Cochin
Ginger rhizome, dried (Suntho)	<i>Zingiber officinale</i>	Cultivated	Nepal	NPR 190-200	Kathmandu/Nepalgunj
Ginger rhizome, fresh (Aduwa)	<i>Zingiber officinale</i>	Cultivated	Nepal	NPR 23-40	Nepalgunj/Kathmandu
Himalayan rhubarb rhizome (Padamchal)	<i>Rheum australe</i>	Wild	Nepal	NPR 50-60	Kathmandu/Nepalgunj
Indian Cardamom seed, large	<i>Amomum subulatum</i>	Cultivated	India	INR 975	Gangtok
Indian Cardamom seed (Alaichi)	<i>Amomum subulatum</i>	Cult/Wild	Nepal	NPR 1500	Kathmandu
Indian Cassia leaf (Tejpat)	<i>Cinnamomum tamala</i>	Wild	Nepal	NPR 45	Kathmandu/Nepalgunj
Jatamansi root and rhizome	<i>Nardostachys grandiflora</i>	Wild	Nepal	NPR 350-370	Kathmandu/Nepalgunj
Long pepper fruit (Pipla)	<i>Piper longum</i>	Cult/Wild	Nepal	NPR 270	Kathmandu
Long pepper fruit (pippali), large	<i>Piper longum</i>	Cult/Wild	India	INR 140-300	Bokaro/Trichur/Nagaon/ Mandi/Delhi
Mace aril	<i>Myristica fragrans</i>	Cultivated	India	INR 1750	Cochin
Morel mushroom (Guchhichyau)	<i>Morchella conica</i>	Wild	Nepal	NPR 9000	Nepalgunj
Nutmeg kernel (with shell)	<i>Myristica fragrans</i>	Cultivated	India	INR 305	Cochin
Nutmeg kernel (without shell)	<i>Myristica fragrans</i>	Cultivated	India	INR 602.08	Cochin
Pepper fruit, Malabar garbled	<i>Piper nigrum</i>	Cultivated	India	INR 231.17	Cochin
Psyllium husk, Isabgol husk	<i>Plantago ovata</i>	Cultivated	India	INR 200-210	Delhi/Neemuch/Kolkata/Viru dhunagar/Hyderabad/Amrit
Psyllium seed, Isabgol Beej	<i>Plantago ovata</i>	Cultivated	India	INR 50-80	Mandi/Solan/Delhi
Psyllium seed, powdered steam sterilized	<i>Plantago ovata</i>	Cultivated	India	USD 10.95	FOB CA
Senna leaf, powdered, 2.5% hydroxyanthracene glycosides	<i>Cassia angustifolia</i>	Cultivated	India	USD 1.5	FOB India (FCL)
Senna leaf, TBC, steam sterilized	<i>Cassia angustifolia</i>	Cultivated	India	USD 5	FOB Origin
Senna pod	<i>Cassia angustifolia</i>	Cultivated	India	INR 35-50	Virudhunagar/Delhi/ Bangalore/Kolkata
Shatavari root (Kuroli)	<i>Asparagus racemosus</i>	Cult/Wild	Nepal	NPR 500-550	Kathmandu/Nepalgunj
Turmeric rhizome	<i>Curcuma longa</i>	Cultivated	India	INR 110-180.5	Cochin/Mumbai
Winged Prickly ash fruit (with seed) (Timur)	<i>Zanthoxylum armatum</i>	Wild	Nepal	NPR 85-110	Kathmandu/Nepalgunj

*Certified Organic / ** Certified Organic & Fair Trade

Notes:

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

MEETINGS AND TRADE SHOWS
INDIA and other Southern, Central and Western Asian Countries

April 21-30, 2011**TRAINING ON MUSHROOM CULTIVATION TECHNOLOGY FOR ENTREPRENEURS**

Venue: Chambagaht, Solan India
Sponsors: Directorate of Mushroom Research, Indian Council for Agricultural Research,
Contact: Directorate of Mushroom Research, Indian Council of Agricultural Research,
Chambaghat 173213, Solan, Himachal Pradesh.
TEL: 91-1792-230767, 230541
E-MAIL: Directormr@gmail.com
WEB: http://www.nrcmushroom.org/html/training_calender_.html

May 11-17, 2011**TRAINING ON MUSHROOM CULTIVATION FOR SMALL/MARGINAL FARMERS/GROWERS-I**

Venue: Chambagaht, Solan India
Sponsors: Directorate of Mushroom Research, Indian Council for Agricultural Research,
Contact: Directorate of Mushroom Research, Indian Council of Agricultural Research,
Chambaghat 173213, Solan, Himachal Pradesh.
TEL: 91-1792-230767, 230541
E-MAIL: Directormr@gmail.com
WEB: http://www.nrcmushroom.org/html/training_calender_.html

September 4-9, 2011**59th INTERNATIONAL CONGRESS AND ANNUAL MEETING OF THE SOCIETY FOR MEDICINAL PLANT AND NATURAL PRODUCT RESEARCH**

Venue: Maritim Pine Beach Hotel, Belek, Antalya, Turkey
Contact: Chairman K. Hüsnü Can Başer, TEL: +90 312 439 68 04 FAX: +90 312 439 68 02
E-MAIL: info@ga2011.org
WEB: <http://www.ga2011.org>

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

September 11-14, 2011**42nd INTERNATIONAL SYMPOSIUM ON ESSENTIAL OILS**

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

September 20-26, 2011**TRAINING ON MUSHROOM CULTIVATION FOR SMALL/MARGINAL FARMERS/GROWERS-II**

Venue: Chambagaht, Solan India
Sponsors: Directorate of Mushroom Research, Indian Council for Agricultural Research,
Contact: Directorate of Mushroom Research, Indian Council of Agricultural Research,
Chambaghat 173213, Solan, Himachal Pradesh.
TEL: 91-1792-230767, 230541
E-MAIL: Directormr@gmail.com
WEB: http://www.nrcmushroom.org/html/training_calender_.html

October 20-22, 2011

SECOND GLOBAL SUMMIT ON SUSTAINABLE DEVELOPMENT AND BIODIVERSITY (GLOSS 2011)

Venue: Raipur, Chhattisgarh, India
Host: Council for Tribal and Rural Development (CTRD), Society for International Development (SID), African Bound Corporation, German Association for Home therapy, AEI Research and Consultancy Pvt. Ltd.
Contact: Dr. R.N. Pati, Conference Coordinator Mahamaya Bhawan, HIG-101, Kanan Vihar, Phase-1, PO Patia, Bhubaneswar
TEL: +91 674 274 1025/395 1598
FAX: +91 674 395 1598
E-MAIL: drpati54@gmail.com
WEB: <http://www.gloss2011.com>

Conference theme: Traditional knowledge and biodiversity conservation, sustainable development, public interest environmental laws, energy and biodiversity, conservation and sustainable use of wild plant diversity.

Exhibitor profile: International and domestic companies, firms and organizations that are producing, processing, exporting, importing medicinal herbs, certified organic ingredients, essential oils, equipment for packaging herbal products.

October 29-31, 2011

THE FIFTH INTERNATIONAL CONFERENCE ON VETIVER (ICV-5)

Venue: Central Institute of Medicinal and Aromatic Plants, Lucknow India
Organizers: Central Institute of Medicinal and Aromatic Plants (CIMAP), The Chaipattana Foundation (Bangkok, Thailand), Office of the Royal Development Projects Board (ORDPB) (Bangkok Thailand), The Vetiver Network International (TVNI), The India Vetiver Network, National Science Agencies in India (CSIR, DST, ICAR, National Medicinal Plant Board, Ministry of Environment and Forests, etc.)
Contact: ICV-5 Secretariat Dr. U. C. Lavania, Central Institute of Medicinal and Aromatic Plants (CIMAP)
TEL: +91 522 2717435
FAX: +91 522 2342666
E-MAIL: icv-5@cimpa.res.in
WEB: <http://icv-5.cimap.res.in/>

Conference Theme: The fast growing and deep roots of Vetiver and high biomass has opened new opportunities for its utilization in mitigating global warming through photosynthetic capture of atmospheric carbon and its sequestration in subsoil horizons. Technical advances are also being made in cellulosic conversion of plant biomass into biofuel offering an integrated approach for optimum utilization of vetiver plantations thereby reducing the load from anthropogenic emissions. The conference aims to review the states of art developments on the prospects and potential of Vetiver in addressing issues related to climate change and mitigation of global warming, update the latest developments of Vetiver applications to underscore its promises and potential in the service of the global community, overview the Vetiver Ecosystem Services.

NORTH AMERICA

Medicinal Plant Supply Chain Uncertainty associated with Extreme Weather Events, Hurricanes, Floods, Landslides, Massive Earthquakes and Volcanoes

Several of North America's botanical producing and exporting countries are frequently affected by extreme weather events such as hurricanes, tropical storms, floods and landslides, each time taking lives, ruining crops and destroying infrastructure. Some of these same countries are occasionally hit hard by major earthquakes or volcanic eruptions. Adding to the impact of such major natural disasters is political uncertainty in some countries. Here below are brief summaries of recent significant events in North American countries that could have an impact on the sustainable supply of certain botanical crops.

GRENADA

Also known as "Spice Island," the island nation of Grenada was a major producer and exporter of botanicals until the devastating hurricanes of 2004 and 2005 from which the country has still not recovered. The country's principal export crops were nutmeg kernel and mace aril (*Myristica fragrans*). Prior to the hurricanes the nutmeg industry was a key driver of Grenada's economic growth. The two devastating hurricanes destroyed or significantly damaged a large percentage of Grenada's tree crops, which may still take some years to reestablish. In September 2004 Hurricane Ivan damaged or destroyed 90% of the country's buildings. The July 2005 Hurricane Emily struck Grenada again as the country was still recovering from the impact of Hurricane Ivan. Future sustainable production in Grenada is also potentially threatened by rising sea levels.

REPUBLIC OF GUATEMALA

Guatemala, a producer and exporter of allspice fruit (*Pimenta dioica*), breadnut seed (*Brosimum alicastrum*), cardamom seed (*Elettaria cardamomum*), coffee bean (*Coffea* spp.), and West Indian lemongrass leaf (*Cymbopogon citratus*), among other botanicals, is regularly affected by extreme natural events such as tropical cyclones, flooding, landslides, earthquakes and volcanic eruptions. This relatively small country is home to eight active volcanoes. On 27 May 2010, Pacaya Volcano erupted causing ash to rain down on Guatemala City. Two days later, tropical storm Agatha struck, causing flooding, destroying homes and causing the evacuation of 155,000 people. The floods and mudslides destroyed crops and infrastructure (bridges and roads) in the farming areas. Major earthquakes and hurricanes have occurred in the past and will likely occur again.

REPUBLIC OF HAITI

In the past Haiti has been a significant producer and exporter of essential oils of vetiver root (*Vetiveria zizanioides*) and amyris bark (*Amyris balsamifera*). The magnitude 7.0 earthquake of 12 January 2010 killed 222,570 people, injured 300,000, and left more than two million people homeless. The earthquake leveled the capital city; 97,294 houses were destroyed and 188,383 damaged. Post-earthquake many international development projects have been focusing on plantation of vetiver, not only for prevention of soil erosion and mitigation of future hurricane damage but to increase production and export potential for the essential oil. The 2010 earthquake was a severe blow to an already shaky Haitian economy and infrastructure and has contributed to a climate of economic and political uncertainty. Ever since a contested presidential election of 28 November 2010, political uncertainty has continued to grip Haiti. Run-off presidential and legislative elections were carried out on 20 March 2011 after which the United Nations Stabilization Mission in Haiti (MINUSTAH) called on all candidates and their followers to show patience and restraint as they wait for the results of the vote which should be released in first week of April.

Table 1 lists selected important medicinal and aromatic plants (MAPs) that are produced in one or more of the listed North American countries including Grenada (GRD), Guatemala (GTM), Haiti (HTI), Jamaica (JAM), Mexico (MEX), and United States (USA).

Table 1: Important North American Medicinal and Aromatic Plants in Trade: Grenada (GRD), Guatemala (GTM), Haiti (HTI), Jamaica (JAM), Mexico (MEX), and United States (USA)

Common Name and Botanical Name	GRD	GTM	HTI	JAM	MEX	USA
Alfalfa leaf (<i>Medicago sativa</i>)						X
Allspice fruit and leaf (<i>Pimenta dioica</i>)		X	X	X	X	
Aloe (<i>Aloe vera</i>)				X	X	X
American ginseng root (<i>Panax quinquefolius</i>)						X
American storax gum (<i>Liquidambar styraciflua</i>)						X
Amyris bark oil (<i>Amyris balsamifera</i>)			X			
Annatto seed (<i>Bixa orellana</i>)		X		X		
Black cohosh rhizome (<i>Actaea racemosa</i>)						X
Bloodroot (<i>Sanguinaria canadensis</i>)						X
Blue cohosh root (<i>Caulophyllum thalictroides</i>)						X
Bois bande (<i>Roupala montana</i>)	X				X	
Breadnut seed (<i>Brosimum alicastrum</i>)		X				
California poppy flower (<i>Eschscholzia californica</i>)						X
Cancerina root bark (<i>Hippocratea excelsa</i>)					X	
Candelilla leaf wax (<i>Euphorbia antisiphilitica</i>)					X	
Capsicum fruit (<i>Capsicum annum</i>)					X	X
Cardamom seed (<i>Elettaria cardamomum</i>)		X				
Cascara sagrada bark (<i>Frangula purshiana</i>)						X
Chamomile flower, German (<i>Matricaria recutita</i>)					X	
Chaparro amargosa (<i>Castela texana</i>)					X	
Chia seed (<i>Salvia hispanica</i>)					X	
Chuchalalate bark (<i>Amphipteryngium adstringens</i>)					X	
Cinnamon bark (<i>Cinnamomum</i> spp.)	X					
Clove flower bud (<i>Syzygium aromaticum</i>)	X					
Copalchi bark (<i>Coutarea lactiflora</i>)					X	
Corn silk style & stigma (<i>Zea mays</i>)					X	
Cranberry fruit (<i>Vaccinium macrocarpon</i>)						X
Damiana leaf (<i>Turnera diffusa</i>)					X	
Echinacea herb and root (<i>Echinacea</i> spp.)						X
False arnica (<i>Heterotheca inuloides</i>)					X	
Flax seed (<i>Linum usitatissimum</i>)						X
Ginger rhizome (<i>Zingiber officinale</i>)	X			X		X
Goldenseal rhizome (<i>Hydrastis canadensis</i>)						X
Hibiscus flower (<i>Hibiscus sabdariffa</i>)					X	
Hop strobile (<i>Humulus lupulus</i>)						X
Jamaica quassia wood (<i>Picrasma excelsa</i>)				X		
Jojoba pods (<i>Simmondsia chinensis</i>)					X	
Kava-kava rhizome (<i>Piper methysticum</i>)						X
Mace aril (<i>Myristica fragrans</i>)	X					
Mayapple (<i>Podophyllum peltatum</i>)						X
Mexican giant hyssop leaf and flower (<i>Agastache mexicana</i>)					X	
Mexican oregano (<i>Lippia graveolens</i>)					X	
Mexican prickly poppy herb (<i>Argemone mexicana</i>)					X	
Mexican valerian root (<i>Valeriana edulis</i> ssp. <i>procera</i>)					X	
Mohave yucca (<i>Yucca schidigera</i>)					X	
Noni fruit (<i>Morinda citrifolia</i>)				X		X
Nutmeg kernel (<i>Myristica fragrans</i>)	X			X		
Oat straw green flowering tops (<i>Avena sativa</i>)						X
Oregon grape root (<i>Mahonia aquifolium</i>)						X
Passionflower herb (<i>Passiflora incarnata</i>)						X
Peppermint leaf (<i>Mentha × piperita</i>)						X
Peru balsam (<i>Myroxylon balsamum</i>)				X		
Pleurisy root (<i>Asclepias tuberosa</i>)						X
Pumpkin seed (<i>Cucurbita pepo</i>)					X	
Quassia bark (<i>Quassia amara</i>)					X	
Resurrection plant (<i>Selaginella lepidophylla</i>)					X	
Salvia divinorum (<i>Salvia divinorum</i>)					X	
Sarsaparilla root (<i>Smilax</i> spp.)		X		X	X	
Sassafras bark and leaf (<i>Sassafras albidum</i>)					X	X
Saw palmetto fruit (<i>Serenoa repens</i>)						X

Common Name and Botanical Name	GRD	GTM	HTI	JAM	MEX	USA
Slippery elm bark (<i>Ulmus rubra</i>)						X
Spearmint leaf (<i>Mentha spicata</i>)						X
Tepezcohuite bark (<i>Mimosa tenuiflora</i>)					X	
Tilia estrella flower (<i>Ternstroemia pringlei</i>)					X	
Turmeric rhizome (<i>Curcuma longa</i>)	X		X	X		
Usnea lichen (<i>Usnea barbata</i>)						X
Vanilla fruit (<i>Vanilla planifolia</i>)		X			X	
Vetiver root (<i>Vetiveria zizanooides</i>)			X			
West Indian lemongrass leaf (<i>Cymbopogon citratus</i>)		X			X	
Wild cherry bark (<i>Prunus serotina</i>)						X
Wild yam root, Mexican (<i>Dioscorea composita</i>)					X	
Wild yam root, North American (<i>Dioscorea villosa</i>)						X
Witch hazel bark and leaf (<i>Hamamelis virginiana</i>)						X
Yerba mansa (<i>Anemopsis californica</i>)						X
Yerba santa (<i>Eriodictyon trichocalyx</i>)					X	X

BOTANICAL PRODUCT SPECIFICATIONS
Sarsaparilla rhizome
a product of Mexico

PRODUCT	Cocolmeca, Raíz FHEUM ¹¹
Botanical names	Various species of <i>Smilax</i> (Fam. Smilacaceae) including <i>Smilax moranensis</i> , <i>S. subpubescens</i> , <i>S. cordifolia</i> , <i>S. jalapensis</i> , <i>S. ludellii</i> , and other species of the genera <i>Smilax</i> that comply with the specifications.
Pharmacopoeial name	Smilacis rhizoma
Part used	Fresh or dried rhizome
Cultivated or wild	Wild collected
Storage	Store at room temperature in sealed containers protected from light and moisture.
IDENTIFICATION	
Macroscopic	Complies with Macroscopic description in Cocolmeca Monograph
Thin-layer chromatography	Detection of anthocyanins as per TLC ID Test (MGA-FH 0050)
TESTS	
Loss on drying	NMT 13.0% (MGA-FH 0080)
Total ash	NMT 10.0% (MGA-FH 0170)
Content	Contains between 18.0% and 28.0% ethanol extractable matter (MGA-FH 0070)
CONTAMINATION	
Salmonella	Not detected (MGA-FH 0170)
Heavy metals	NMT 10 mg/kg cadmium NMT 0.3 mg/kg lead

¹¹ Comisión Permanente de la Farmacopea de los Estados Unidos Mexicanos: Raíz Cocolmeca. In: *Farmacopea Herbolaria de los Estados Unidos Mexicanos (FHEUM)*. Secretaria de Salud, México D.F. 2001.

BOTANICAL RAW MATERIALS (indicative bulk prices)

Product	Botanical Name	Grade	Cultivated or Wild	Origin	Price USD/kg	Basis
American ginseng root	<i>Panax quinquefolius</i>	Small legs	Cultivated	Minnesota	44	FOB SF
American ginseng root	<i>Panax quinquefolius</i>	Medium	Cultivated	Minnesota	88	FOB SF
Cascara bark, broken	<i>Frangula purshiana</i>	NK	Wild	USA	8.75	CIF
Coriander fruit	<i>Coriandrum sativum</i>	NK	Cultivated	Canada	1.54	Spot NY
Damiana leaf, cut & sifted	<i>Turnera diffusa</i>	NK	Wild	Mexico	5.53	CIF
Echinacea herb*	<i>Echinacea purpurea</i>	PhEur	Cultivated	Pacific NW	5.95	FOB Pac NW
Echinacea root*	<i>Echinacea purpurea</i>	PhEur	Cultivated	Pacific NW	22.04	FOB Pac NW
Goldenseal rhizome, powdered steam sterilized	<i>Hydrastis canadensis</i>	NK	Wild/Cult	USA	95	FOB CA
Oregon grape root	<i>Mahonia aquifolium</i>	NK	Wild	USA	18.97	CIF
Peppermint leaf*	<i>Mentha x piperita</i>	PhEur	Cultivated	USA	8.15	FOB Pac NW
Pleurisy root	<i>Asclepias tuberosa</i>	BHP	Cultivated	USA	41.77	FOB CA
Slippery elm bark*	<i>Ulmus rubra</i>	USP	Wild	USA	30.42	FOB USA
Wild Cherry bark*	<i>Prunus serotina</i>	BHP	Wild	USA	16.5	FOB CA

* Certified organic – NK = Grade not known

Notes:

(1) **Quality Standards:** Standards for the above listed medicinal plants are published in the *United States Pharmacopeia - National Formulary* (USP-NF). Some also 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	Origin	Price USD/kg	Basis
Black cohosh rhizome dry extract (<i>Actaea racemosa</i>)	min 2.5% triterpene glycosides as 27-deoxyactein	USA	65-85	FOB USA
Echinacea purpurea herb dry extract (<i>Echinacea purpurea</i>)	min 4% phenols expressed as chlorogenic acid	USA	35-48	FOB USA
Goldenseal rhizome, powdered extract (<i>Hydrastis canadensis</i>)	5% alkaloids (hydrastine & berberine)	USA	90	FOB USA
Saw palmetto fruit extract (EU standard) (<i>Serenoa repens</i>)	min 85% and max 95% fatty acids	USA	85-105	FOB USA

Notes:

- (1) Black Cohosh rhizome prices rose over the last quarter due to a late harvest coming which was a result of a severe winter in the southeast, early snow, and a low stock of the harvest from the previous year.
- (2) The 2010 harvest of Saw Palmetto berry was poor, causing the raw material market price to double.

MEETINGS AND TRADE SHOWS NORTH AMERICAN COUNTRIES

March 3, 2011

RHODIOLA INFO SESSIONS IN CENTRAL ALBERTA

Venue: Millet, Alberta (southeast of Edmonton)
Sponsor: Alberta Rhodiola Rosea Growers Organization (ARRGO)
Contact: Monica, TEL: 780 983 0199
E-MAIL: monica@arrgo.ca
WEB: <http://arrgo.ca/event/rhodiola-info-sessions-in-central-alberta-or-northern-alberta-55>

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.

March 14, 2011

IASC (INTERNATIONAL ALOE SCIENCE COUNCIL) ANNUAL MEMBERSHIP MEETING

Venue: Hilton Anaheim Hotel (Avalon Ballroom A), Anaheim California
Contact: IASC office, 8630 Fenton Street, Suite 918 Silver Spring MD, 20910
TEL: 301 588 2420 ext. 102 / FAX: 301 588 1174.
WEB: <http://www.iasc.org/>

April 3-6, 2011

AMERICAN SPICE TRADE ASSOCIATION 2010 ANNUAL MEETING & EXHIBITS

Venue: Scottsdale, Arizona
Contact: American Spice Trade Association (ASTA), 2025 M Street, NW, Suite 800,
Washington, DC 20036-3309
TEL: 202 367 1127 / FAX: 202 367 2127
WEB: <http://www.astaspice.org/i4a/pages/index.cfm?pageid=1>

Attendee profile: Agents, blenders, brokers, dehydrators, distributors, extractors, growers, importers, processors, traders, customhouse brokers, laboratories, manufacturers, samplers/weighers, sterilizers, suppliers and users of spices in finished food products.

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)
E-MAIL: ICSB@olemiss.edu
WEB: <http://www.oxfordicsb.org>

April 12, 2011

COLLOQUE 2011 - Les multiples potentiels des plantes de santé

Venue: Centre de congrès et d'expositions de Lévis (CCEL), 5750, J.-B. Michaud, Lévis,
Quebec, Canada
Organizer: Filière des plantes médicinales biologiques du Québec (FPMBQ), 5955, rue St-
Laurent, bureau 201, Lévis (Qc) G6V 3P5
Contact: Mme Miryam Proulx, FPMBQ
TEL: 418 838-4747 # 4 / FAX: 418 838-7274
EMAIL: fpmq@plantesmedicinales.qc.ca
WEB: <http://www.plantesmedicinales.qc.ca/colloque-2011.html>

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 4-9, 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/2011NAAC/index.html>

July 9-13, 2011**SOCIETY FOR ECONOMIC BOTANY 52nd ANNUAL MEETING AND EXHIBITION**

Venue: St. Louis, Missouri
Hosts: William L. Brown Center at the Missouri Botanical Garden
Contact: Society for Economic Botany, PO Box 299, St. Louis MO 63166 -0299
WEB: http://www.econbot.org/organization/index.php?sm=07|meetings_by_year/2011

July 15-17, 2011**15th ANNUAL SEQUIM LAVENDER FESTIVAL**

Venue: Sequim, Washington USA
Sponsor: Sequim Lavender Growers Association
Contact: Sequim Lavender Festival, 105 ½ East First Street, Port Angeles WA 98362
TEL: 360-681-3035 or 877-681-3035
E-MAIL: info@lavenderfestival.com
WEB: <http://www.lavenderfestival.com>

July 18-19, 2011**SECOND ACMAP CONFERENCE 2011**

Venue: Alabama A&M University, Normal, Alabama USA
Sponsor: American Council for Medicinally Active Plants, Inc. (ACMAP)
P.O. Box 1761, Titusville, FL 32781, USA
TEL: 321-861-349 / FAX: 321-861-2925
E-MAIL: info@acmap.org,
WEB: <http://www.acmap.org/conference2011.html>

October 10-14, 2011**SUPPLY SIDE WEST INTERNATIONAL TRADE SHOW AND CONFERENCE**

Venue: Venetian Hotel and Sands Exposition Center, Las Vegas, USA
Organizer: Virgo Publishing, Phoenix, Arizona USA
WEB: <http://www.supplysideshow.com/west>

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

SOUTH AMERICA

Medicinal Plant Supply Chain Uncertainty associated with Extreme Weather Events, Major Droughts, Floods, Landslides, Mudslides and Massive Earthquakes

Several of South America's botanical producing and exporting countries are frequently and increasingly affected by extreme weather events such as massive floods, mudslides and landslides resulting from torrential rains. At the same time, parts of the tropical rainforests have been experiencing major droughts in recent years with lowest river levels on record and trees dying. Brazil has been suffering from both major droughts and torrential rains.

Chile is occasionally hit by major earthquakes and has been hit by tsunamis in the past. At the moment, Chile is also suffering a worst drought in 50 years. In this article, we are not linking these occurrences directly to current supply chain interruptions or shortages. However, the implications of massive destruction to transport infrastructure and the apparently increasing intensity of natural disasters are obvious as they affect all types of business including agriculture. Here below are brief summaries of recent significant events in South American countries that could have an impact on the sustainable supply of certain botanical crops.

REPUBLIC OF CHILE – 2010 massive earthquake – 2011 worst drought in 50 years

Chile is a leading South American supplier of medicinal and aromatic plants and extracts for the global market, for example of boldo leaf (*Peumus boldo*), eucalyptus (*Eucalyptus* spp.), rose hips (*Rosa canina*), St. John's wort herb (*Hypericum perforatum*), and various seaweeds.

- **Drought:** In February 2011 it was reported by growers associations that Chile is in the midst of its worst drought in about 50 years. Thousands of Chilean families and about 6,000 farmers are presently facing water shortages especially in the Coquimbo and Valparaíso regions in central Chile. Some rivers are at about 50% normal level. There are also concerns that the water consumption of pine and eucalyptus plantations may be contributing to the overall water shortages. The intensive cultivation of eucalyptus is believed by some to be using up the water sources.
- **Earthquakes:** Already in early 2011, Chile has had three significant earthquakes including a magnitude 7.1 Araucania Earthquake on 02 January 2011 which occurred at the southern end of the aftershock region of the Magnitude 8.8 megathrust earthquake of 27 February 2010. According to a USGS earthquake summary,¹² at least 521 people were killed in the February 2010 quake, 56 are missing, about 12,000 injured, 800,000 displaced and at least 370,000 houses, 4,013 schools, 79 hospitals and 4,200 boats damaged or destroyed by the earthquake and tsunami in the Valparaíso-Concepción-Temuco area. At least 1.8 million people are affected in Araucania, Bio-Bio, Maule, O'Higgins, Region Metropolitana and Valparaíso. The total economic loss in Chile was estimated at 30 billion USD. Electricity, telecommunications and water supplies were disrupted and the airports at Concepción and Santiago had minor damage. The tsunami damaged or destroyed many buildings and roads at Concepción, Constitución, Dichato and Pichilemu.

FEDERATIVE REPUBLIC OF BRAZIL – back to back major droughts and major floods

Brazil is among the world's major suppliers of medicinal and aromatic plants and extracts. Yet the Brazilian natural ingredient sector has a number of big challenges to face including loss of rainforest habitat from development, deforestation and climate change, major droughts in the Amazon region, and unusual torrential rains in other parts of the country.

While Brazil is the world's number three producer and exporter of pepper fruit (*Piper nigrum*), the high temperatures and drought of 2010 caused low yields and short supply driving prices up. It's been reported that the 2010 Amazonian drought was more widespread and damaging than the 2005 Amazonian drought, which at the time was thought to be a "once in a century" event. The Amazon River fell to its lowest level in decades, with many of its tributaries such as the Rio Negro completely drying up in some areas.¹³

At the same time major floods and mudslides have struck other parts of Brazil several times over the past year.

- **January 2011 Rio de Janeiro Floods and Mudslides** was among the worst weather-related natural disasters in Brazil's history. The heavy rains that began on 29 December 2010 caused

¹² United States Geological Survey. Earthquake summary: Magnitude 8.8 Offshore Bio-Bio Chile. 2010 February 27. Available at: <http://earthquake.usgs.gov/earthquakes/eqinthenews/2010/us2010tfan/#summary>

¹³ Lewis SL et al. The 2010 Amazon drought. *Science*. 04 February 2011; 331(6017):554.

flooding and landslides in southeastern Brazil, which affected the States of São Paulo, Rio de Janeiro, Espírito Santo, and Minas Gerais. On 12 January, nearly one month's worth of rain fell in 24 hours causing river levels to rise rapidly by over six meters. By 14 January 2011, floods and landslides displaced more than 100,000 people and left about 20,000 people homeless. It is estimated that over 900 people lost their lives but hundreds remain missing. Hundreds of roads and bridges have been damaged or destroyed. The United Nations described the landslides as the eighth worst in world history. Although Brazil's main export crops were not badly affected by this disaster, there is major damage to infrastructure.

- **June 2010 Northeastern Brazil Floods:** damaged large areas in the northeastern States of Pernambuco and Alagoas. The flooding seriously damaged infrastructure including bridges, power supplies and rail lines. More than 150,000 people were displaced.
- **April 2010 Rio de Janeiro floods and mudslides** was an extreme weather event that affected the State of Rio de Janeiro. Over 200 people died and about 15,000 people were left homeless.
- **January 2010 Rio de Janeiro floods and mudslides** was an extreme weather event that affected the State of Rio de Janeiro. At least 85 people died and more than 4,000 people had to evacuate their homes.

Table 1 lists selected important medicinal and aromatic plants (MAPs) that are produced in one or more of the listed South American countries including Brazil (BRA), Chile (CHL), Paraguay (PRY), and Peru (PER).

Table 1: Important South American Medicinal and Aromatic Plants in Trade: Brazil (BRA), Chile (CHL), Paraguay (PRY), and Peru (PER).

Common Name and Botanical Name	BRA	CHL	PRY	PER
Açaí fruit (<i>Euterpe oleracea</i>)	X			
Acerola fruit (<i>Malpighia</i> spp.)	X			
Anguraté herb (<i>Mentzelia cordifolia</i>)				X
Annatto seed (<i>Bixa orellana</i>)	X			X
Boldo leaf (<i>Peumus boldo</i>)		X		
Brazilian copaiba oleoresin (<i>Copaifera</i> spp.)	X			X
Brazilian copal bark (<i>Hymenaea courbaril</i>)	X			
Brazilian pink pepper (<i>Schinus terebinthifolius</i>)	X		X	
Brazilian rosewood (<i>Aniba rosaeodora</i>)	X			X
Capreuva wood oil (<i>Myrocarpus frondosus</i>)			X	
Camu camu fruit (<i>Myrciaria dubia</i>)				X
Capsicum fruit (<i>Capsicum annum</i>)	X			X
Cat's claw stem bark (<i>Uncaria tomentosa</i>)				X
Catuaba bark (<i>Erythroxylum catuaba</i>)	X			
Caygua fruit (<i>Cyclanthera pedata</i>)				X
Ceiba bark (<i>Ceiba pentandra</i>)	X			
Chá-de-bugre leaf (<i>Cordia salicifolia</i>)	X			
Chamomile flower, German (<i>Matricaria recutita</i>)	X			X
Chancapiedra (<i>Phyllanthus niruri</i>)				X
Chascón (<i>Lessonia</i> spp.)		X		
Cherimoya fruit (<i>Annona cherimola</i>)				X
Chicorea de mar (<i>Gigartina</i> spp.)		X		
Chuchuhuasi bark (<i>Maytenus macrocarpa</i>)				X
Cinchona bark (<i>Cinchona micrantha</i>)				X
Coca leaf (<i>Erythroxylum coca</i>)				X
Cocoa butter (<i>Theobroma cacao</i>)	X			X
Condurango bark (<i>Marsdenia condurango</i>)				X
Cochajugo (<i>Durvillaea antarctica</i>)		X		
Cupuaçu fruit (<i>Theobroma grandiflorum</i>)	X			
Dragon's blood croton (<i>Croton lechleri</i>)				X
Erva-baleeira (<i>Cordia verbenacea</i>)	X			
Espinheira santa leaf (<i>Maytenus ilicifolia</i>)	X			
Garden nasturtium herb (<i>Tropaeolum majus</i>)				X
Ginger rhizome (<i>Zingiber officinale</i>)	X			X
Guaco leaf (<i>Mikania guaco</i>)	X			
Guaraná seed (<i>Paullinia cupana</i>)	X			
Hercampuri bark (<i>Gentianella alborosea</i>)				X
Huiro (<i>Macrocystis</i> spp.)		X		

Common Name and Botanical Name	BRA	CHL	PRY	PER
Ipecac rhizome and root (<i>Cephaelis ipecacuanha</i>)	X			
Jacaranda caroba (<i>Jacaranda caroba</i>)	X			
Lemon verbena leaf (<i>Aloysia citriodora</i>)	X	X	X	X
Lúcuma fruit (<i>Pouteria lucuma</i>)				X
Luga luga (<i>Iridaea</i> spp.)		X		
Maca root (<i>Lepidium meyenii</i>)				X
Maqui fruit (<i>Aristotelia chilensis</i>)		X		
Muira puama bark (<i>Ptychopetalum olacoides</i>)	X			
Maté leaf (<i>Ilex paraguariensis</i>)	X		X	
Matico leaf (<i>Buddleja globosa</i>)		X		
Mesquite fruit (<i>Prosopis pallida</i>)				X
Muña (<i>Minthostachys setosa</i>)				X
Murta berry (<i>Ugni molinae</i>)		X		
Night-blooming cereus (<i>Selenicereus grandiflorus</i>)	X			
Palo santo wood (<i>Bulnesia sarmientoi</i>)			X	
Pau d'arco bark (<i>Tabebuia impetiginosa</i>)	X		X	
Pelillo (<i>Gracilaria</i> spp.)		X		
Pepper fruit (<i>Piper nigrum</i>)	X			
Peru balsam (<i>Myroxylon balsamum</i>)				X
Peruvian cubé root (<i>Lonchocarpus nicou</i>)				X
Peruvian pink pepper (<i>Schinus areira</i>)				X
Purple corn (<i>Zea mays</i>)				X
Purple passionflower (<i>Passiflora edulis</i>)	X			
Quebracho bark (<i>Aspidosperma quebracho-blanco</i>)	X	X		
Quillaja bark (<i>Quillaja saponaria</i>)		X		X
Rhatany root (<i>Krameria triandra</i>)				X
Rose hips (<i>Rosa canina</i>)		X		
Sacha inchi (<i>Plukenetia volubilis</i>)				X
Sanky fruit (<i>Corryocactus brevistylus</i>)				X
St. John's Wort herb (<i>Hypericum perforatum</i>)		X		
Soursop fruit and leaf (<i>Annona muricata</i>)	X			X
Stevia leaf (<i>Stevia rebaudiana</i>)			X	
Suma root (<i>Pfaffia glomerata</i>)	X			
Tara fruit (<i>Caesalpinia tara</i>)				X
Tolu balsam (<i>Myroxylon</i> spp.)	X			
Tonka bean (<i>Dipteryx odorata</i>)	X			
Winter's bark (<i>Drimys winteri</i>)		X		
Yacón leaf and root (<i>Smallanthus sonchifolius</i>)				X
Yellow boletus mushroom (<i>Suillus luteus</i>)		X		

BOTANICAL PRODUCT SPECIFICATIONS
Ipecac Rhizome and Root
a product of Brazil

PRODUCT	
Ipecac USP ¹⁴	
Botanical name	Cephaëlis acuminata Karsten, or of Cephaëlis ipecacuanha (Brotero) A. Richard (Fam. Rubiaceae).
Pharmacopoeial name	Ipecacuanhae radix
Part used	Dried rhizome and roots
Cultivated or wild	Wild collected
Storage	Store protected from moisture
IDENTIFICATION	
Macroscopic	Complies with Botanic Characteristics Description of Ipecac USP Monograph
Microscopic	Complies with Histology Description of Ipecac USP Monograph
TESTS	
Foreign matter	NMT 2%
Overground stems	NMT 5%
Content	NLT 2.0% of the total ether-soluble alkaloids of ipecac. Its content of emetine (C ₂₉ H ₄₀ N ₂ O ₄) and cephaeline (C ₂₆ H ₃₈ N ₂ O ₄) together is NLT 90.0% of the amount of the total ether-soluble alkaloids. The content of cephaeline varies from an amount equal to, to an amount NLT 2.5 times, the content of emetine.
THERAPEUTIC USE	
Ipecac Syrup USP	As an emetic for emergency use to cause vomiting in case of poisoning. ¹⁵

¹⁴ United States Pharmacopeia Convention. Ipecac. In: *United States Pharmacopeia*, 34th revision. (USP 34). Rockville, MD: United States Pharmacopeia Convention. 2011.

¹⁵ Food and Drug Administration (FDA). Ipecac syrup; warnings and directions for use for over-the-counter sale. In: *Code of Federal Regulations* (21 CFR §201.308). Washington, DC: National Archives and Records Administration. 2010;83. Available at: <http://www.gpo.gov/fdsys/pkg/CFR-2010-title21-vol4/pdf/CFR-2010-title21-vol4-sec201-308.pdf>

BOTANICAL EXTRACTS (indicative bulk prices)

Product	Standard	Origin	Price USD/kg	Basis
Açaí fruit dry extract (<i>Euterpe oleracea</i>)	>0.5% Polyphenols	Brazil	32.79	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	20.44	FOB export
Cat's claw bark freeze-dried extract (<i>Uncaria tomentosa</i>)	1.0-1.5% total alkaloids	Brazil	56.22	FOB export
Catuaba bark (<i>Trichilia catigua</i>)	>10% tannins (AOAC)	Brazil	21.71	FOB export
Guarana seed dry extract (<i>Paulina cupana</i>)	12% caffeine (added caffeine from coffee bean)	Brazil	16.9	FOB USA
Guarana seed dry extract (<i>Paulina cupana</i>)	9-11% caffeine	Brazil	18.09	FOB export
Marapuama bark dry extract (<i>Ptychopetalum olacoides</i>)	>3.5-4.5% total tannins	Brazil	53.21	FOB export
Maté leaf dry extract (<i>Ilex paraguariensis</i>)	8.0-10% caffeine, >0.15% theobromine	Brazil	20.18	FOB export
Maté leaf dry extract (<i>Ilex paraguariensis</i>)	4:1 (w/w)	Brazil	15	FOB origin
Passion flower herb dry extract (<i>Passiflora incarnata</i>)	3.5-3.9% total flavonoids	Brazil	57.32	FOB export
Pau d'arco bark dry extract (<i>Tabebuia impetiginosa</i>)	4:1 (w/w)	Brazil	18	FOB origin

* Certified organic

Notes:

(1) 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

May 24-26, 2011

FCE COSMETIQUE 2011

Venue: Transamerica Expo Center (TEC), Av Dr Mário Vilas Boas Rodrigues, 387
Santo Amaro São Paulo – SP
Contact: NürnbergMesse Brasil, Rua Verbo Divino, 1.547 - 7° andar, São Paulo – SP, CEP:
04719-002.
TEL: +55 (11) 3205 5000
FAX: +55 (11) 3205 5070
E-MAIL: fcocosmetique@nm-brasil.com.br
WEB: <http://www.fcocosmetique.com.br>

Exhibitor profile: Suppliers of natural and organic ingredients, botanical raw materials and extracts, mainly for external application (cosmetic) including, among others:

- Beraca Quimica e Ingredientes <http://beraca.com/beraca>
- Croda do Brasil <http://www.croda.com.br>
- Phytoflora Comercial Ltda. <http://www.phytoflora.com.br>
- SARFAM <http://www.sarfam.com.br>

August 9-10, 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.

September 18-20, 2012

FOOD INGREDIENTS SOUTH AMERICA 2012

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

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

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
Ajowan fruit	India	MNS 37 – December 2010
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
Capsicum oleoresin	South America	MNS 37 – December 2010
Caralluma extract	India	MNS 21 – December 2006
Caraway fruit	Africa	MNS 35 – June 2010
Carob bean gum	Europe	MNS 37 – December 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 juice extract	North America	MNS 37 – December 2010
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 elder flower	Europe	MNS 38 – March 2011
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
Ipecac rhizome	South America	MNS 38 – March 2011
Ivy leaf PE	Western Europe	MNS 13 – December 2004
Jamaica quassia stem wood	North America	MNS 32 – September 2009
Japanese honeysuckle leaf/stem	China, Japan, Korea	MNS 38 – March 2011
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
Lycium fruit freeze-dried pwd	China	MNS 37 – December 2010
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	Africa	MNS 38 – March 2011
Milk thistle fruit PE	Eastern Europe	MNS 1: September 2001 / MNS 7: June 2003
Molokhia leaf	Africa	MNS 29 – December 2008
Myrrh gum resin	Asia (Yemen)	MNS 38- March 2011
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
Pomegranate juice powder	Africa	MNS 37 – December 2010
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
Sarsaparilla rhizome	North America	MNS 38 – March 2011
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>

- The EcoCert Fair Trade Standard is available at: http://appli.ecocert.com/IMG/pdf/EFT_Standard.pdf
- Other EcoCert Fair Trade documents can be downloaded at: <http://appli.ecocert.com/-EFT-.html>

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

Institute for Market Ecology: http://www.imo.ch/index.php?seite=imo_index_en

- 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/Whatwedo/Organicstandards/Standards/tabid/353/Default.aspx>

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

- Guidance for the application of the BioTrade Verification Framework:
http://www.ethicalbiotrade.org/dl/PRO03_D_Guidance_to_the_Application_of_the_Verification_Framework_2009-10-30.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/ResourcesPublications/unctad_dtc_ted_2007_8_Eng.pdf
- BioTrade Verification Framework for Native Natural Ingredients:
http://www.ethicalbiotrade.org/dl/STD01_BioTrade_Verification_Framework_for_Native_Nat_Ingredients_2007-09-20_EN.pdf
- UNCTAD BioTrade Initiative BioTrade Principles and Criteria:
http://www.biotrade.org/ResourcesPublications/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.phytotradeafrica.com/members/ourmembers.asp>

Rainforest Alliance Certified farms list:
http://sustainablefarmcert.com/certified_farms.cfm

Union for Ethical BioTrade (UEBT) members list:
<http://www.uebt.ch/about/members.html>

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

COMORES

GIE – la Maison des Epices des Comores, Cellule d'Appui Conseil – Siège Moroni, Bâtiment ex CEFADER – Route de M'dé, BP 2510 MORONI, Union des Comores. TEL/FAX: +269 73 66 88.
E-MAIL: maison.epices@comorestelecom.km / WEB: <http://www.epices-comores.com>

EGYPT

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

Regional Medicinal & Herbal Plants Network (MHPN) of the Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA), Dr. M.S.A. Safwat, P.O. Box 639 – Baga 19381, Amman Jordan. Tel: 00962 6 4725071 / FAX: 00962 6 4726099
E-MAIL: map-aarenina@ncartt.gov.jo
WEB: <http://www.aarinena.org/MHPWeb/>

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

ETHIOPIA

Ethiopian Pulses, Oil Seeds and Spices Processors Exporters' Association (EPOSPEA), 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/index.php?option=com_content&view=article&id=89:botanical-products-association-of-ghana-botpag&catid=52:ghana-partners&Itemid=100

KENYA

Network for Natural Gums and Resins in Africa (NGARA), Secretariat c/o KEFRI, Karura P.O. Box 64636 – 00620 Mobil Plaza, Nairobi, Kenya. TEL: ++254 20 2020623 / FAX: +254 20 3750497.
E-MAIL: info@ngara.org
WEB: <http://www.ngara.org>

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

MAURITIUS

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

MOROCCO

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

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

Association Marocaine des Plantes Aromatiques et Médicinales (AMAPAM), Mr. Mohamed Marzouk, CELL: (+212)63 48 45 40, E-MAIL: contact@nohafleur.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. Aboukassim El Hassan or Zrira Saadia, TEL: (+212)37.68.6612
E-MAIL: s.zrira@iav.ac.ma, or zrira_saadia@yahoo.fr, or aboukassim.hassan@gmail.com

Société Marocaine des Plantes Aromatiques et Médicinales (SOMAPAM): Pr. Ismaili Alaoui My Mustapha, TEL: (+212)37776859, E-MAIL: m.ismaili@iav.ac.ma or Pr. EL Ghafari Houssin, E-MAIL: elrhaffari@yahoo.fr

NAMIBIA

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

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

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

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

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

TOGO

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

TUNISIA

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

UGANDA

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

ZIMBABWE

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

ASIA

BANGLADESH

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

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

CHINA

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

International Centre of Research and Training on Seabuckthorn (ICRTS)

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>

JAPAN

Japan Oilseed Processors' Association (JOPA), <http://www.oil.or.jp>

INDIA

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

Asian Medicinal Plants & Health Care Trust (AMPHCT), Sonamukhi Nagar, Sangaria Fanta, Salawas Road, Jodhpur – 342 005 Rajasthan, India. TEL: 0091.291.2748488 / FAX: 0091.291.5120509, E-MAIL: amptrust@yahoo.com

Central Herbal Agro Marketing Federation (CHAMF), Dr. Rajaram Tripathy, 39-A, Rohit Villa, Pachpedi Chowk, Ring Road No. 1, Raipur (C.G.) – 492001. TEL: +91 771-4001197
E-MAIL: chamfmail@gmail.com, mdhorganic@gmail.com
WEB: <http://www.chamf.org>

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

Essential Oil Association of India, Mr. S. C. Jain, Executive Secretary.301, 4832/24 Ansari Road, Darya Ganj, New Delhi, 110002. TEL: +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>

Fragrances & Flavours Association of India, Navinchandra Ranchhoddas Shah Hall, 2-B Floor, 35, Sir Vithaldas Thackersey Marg, Mumbai – 400 020.
TEL: 022 220 90284 / 220 76075 / FAX: 022 2205875
E-MAIL: fafai@mtnl.net.in / WEB: <http://www.fafai.org>

Health Foods and Dietary Supplements Association (HADSA), 1011 Dalamal House, Nariman Point, Mumbai – 400 021, India. Ms. Dipali Mahadik TEL: 91 022 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
E-MAIL: abr_bincy@hotmail.com

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

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

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

Pharmaceuticals Export Promotion Council (Pharmexcil) H.O.: 101, Aditya Trade Centre, Ameerpet, Hyderabad – 500038, India. TEL: 91 40 23735462 / 5466 / FAX: 91- 40 23735464
E-MAIL: info@pharmexcil.com
WEB: <http://www.pharmexcil.com>

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

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

Spice & Food Stuff Exporters Association of India (SFEAI), 530/531 Commodity Exchange Building, 5th Floor, Opp: Dana Bunder Sector 19- Vashi, Navi Mumbai 400705.
TEL: 91 22 278 316 75 / FAX: 91 22 278 317 11
E-MAIL: 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, Jln 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. 5.Jl. Raden Saleh VI No.6 Jakarta Pusat 10430. TEL: 021 3919554 / 021 3919556 / FAX: 201 3919556.

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

Asosiasi Perdagangan Minyak Atsiri Indonesia (The Indonesian Essential Oil Trade Association), c/o PT Djasula Wangi Jl. Garuda 99 Kemayoran Jakarta Pusat 10610, Indonesia.
TEL: 021 4209808 / FAX: 021 4244173.

JORDAN

Association of Agricultural Research in the Near East & North Africa (AARINENA), AARINENA Secretariat, C/O ICARDA West Asia Regional Program (WARP), P. O. Box 950764 Amman 11195 Jordan. TEL: +962 6 5525750 / FAX: +962 6 5525930.

E-MAIL: i.hamdan@cgiar.org

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

NEPAL

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

Medicinal and Aromatic Plants Program in Asia (MAPPA), Dy. Director General – Programs and Team Leader. P. O. Box 3226, Kathmandu, Nepal. TEL: (977-1) 55255313 ext. 102 / FAX: (977-1) 5524509

E-MAIL: mkarki@icoimod.org

WEB: <http://www.mappa-asia.org>

PHILIPPINES

Chamber of Herbal Industries of the Philippines (CHIP), Mezzanine Flr., Strata 300 Bldg. P. Guevarra Street, San Juan 1500 Philippines.

TEL: (63 2) 703 0799, 584 6241, 725 6470 / FAX: (63 2) 584 6241, 725 6470

E-MAIL: sec@chipi.org.ph

WEB: <http://www.chipi.org.ph>

SINGAPORE

Singapore Chinese Medicines and Health Products Merchant Association, 346A King George's Avenue, Singapore 208577. TEL: (65) 6293 8019 / FAX: (65) 6293 5803.

E-MAIL: meheproassn@yahoo.com.sg

WEB: <http://www.tcm.org.sg>

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

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

VIET NAM

Association of Essential Oils, Perfumes and Cosmetics Viet Nam, Prof. Dr. Nguyen Thuong Dong, 32/C1 - Tap the Quan Doi Mai Dich, Cau Giay, Hanoi. TEL: +84 4 7 648 426

E-MAIL: htqt-imm@hn.vnn.vn

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 (EUROPAM), Veterinaerplatz 1, A-1210 Wien, Austria.

TEL: 0043 1 250 77 3104 / FAX: 0043 1 250 77 3190

E-MAIL: Johannes.Novak@europam.net

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

Österreichischen Verbandes für Heil- und Gewürzpflanzen (AGV) (Austrian Association for Medicinal and Herbal Horticulture), AGV Chairwoman Ms. Agnes Schierhuber
E-MAIL: agnes.schierhuber@europarl.europa.eu

BELGIUM

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

BOSNIA AND HERZEGOVINA

Association of Medicinal Plants and Wild Forest Products of Bosnia and Herzegovina, Foreign Trade Chamber of Bosnia and Herzegovina, Department of Branch Associations, 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
E-MAIL: alma012@bih.net.ba

BULGARIA

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

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

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

CZECH REPUBLIC

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

FINLAND

Arctic Flavours Association (AFA), 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
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
E-MAIL: Michel-krausz@wanadoo.fr

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

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

GERMANY

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

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

Erzeugerring für Heil- & Gewürzpflanzen in Bayern e.V., Tal 35, 80331 München, Herr Hans Möser. TEL: +49 089 290 06316 / FAX: +49 089 290 06320
E-MAIL: hans.moerer@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: efeo@wga-hh.de
WEB: <http://www.efeo-org.org>

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

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

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

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

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

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

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), Presidente Dott. Andrea Primavera Agronomo Ph.D. Piante officinali – Agricoltura biologica. Str. Torrente Mussino, 4 06134 S. Orfet – Perugia, Italy. TEL: 075 59447264 / FAX: 340 4577968
E-MAIL: fprimavera.andrea@infinito.it
WEB: <http://www.pianteofficinali.org/main/fippo.htm>

Italian branch organisation of herbal traders (FEI), F.E.I. Federazione Erboristi Italiani 00153 Roma - P.zza G.G. Belli, 2. TEL: 0655280704 – 065866345-305 / FAX: 065812750 - 0655265296 E-MAIL: feiroma@tin.it, fei@confcommercio.it
WEB: <http://www.feierboristi.org/associazione.htm>

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

THE NETHERLANDS

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

POLAND

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

ROMANIA

Asociația Producătorilor Prelucrătorilor și Utilizatorilor de Plante Medicinale și Aromatice din România, (ROPAM), (Romanian Medicinal and Aromatic Plants Growers, Manufacturers and Users Association). Dr. Dumitru Lazurca, G. Moroianu 176 Sacele, Brasov, cod 505600. TEL/FAX: +40(268)273766. E-MAIL: dlazurca@deltanet.ro , contact@ropam.org.ro

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

SERBIA AND MONTENEGRO

Association for Medicinal and Aromatic Plants of Southeast European Countries (AMAPSEEC), Tadeuša 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/ihg>

SPAIN

Asociación Catalana de Productores de Plantas Aromáticas y Medicinales (ACPPAM), Catalunya
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>

SWEDEN

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

UNITED KINGDOM

Aromatherapy Trade Council (ATC), Fairfield Enterprise Centre, Lincoln Way, Fairfield Industrial Estate, Louth, Lincolnshire, LN11 0LS. TEL: 01507 617761
E-MAIL: info@a-t-c.org.uk
WEB: <http://www.a-t-c.org.uk>

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

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

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

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

E-MAIL: membership@fosfa.org
WEB: <http://www.fosfa.org/>

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

The Seasoning and Spice Association (SSA), 6 Catherine Street, London WC2B 5JJ
Tel: 020 7836 2460 / Fax: 020 7836 0580
E-MAIL: ssa@fdf.org.uk
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://newcropsalberta.org/>

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

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 Associations of BC, 202 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.gc.ca
WEB: <http://www.plantesmedicinales.gc.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 / FAX: 418 827 8699

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: shsa@sasktel.net

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

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

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. TEL: 321 861 3494 / FAX: 321 861 2925

E-MAIL: info@acmap.org

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

American Herbal Products Association (AHPA), 8630 Fenton Street, Suite #918, Silver Spring, Maryland 20910. TEL: 301.588.1171/ FAX: 301.588.1174.

E-MAIL: 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 / FAX: 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>

Idaho Mint Growers Association (IMGA), 55 SW 5th Avenue, Suite 100, Meridian, Idaho 83642.

Roger Batt, Executive Director. TEL: 208 888 0988.

E-MAIL: rbatt@spro.net

WEB: <http://www.idahomint.org/growers.html>

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

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

International Herb Association, P.O. Box 5667, Jacksonville FL, USA 32247-5667

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

New Mexico Herb Growers Association (NMHGA), 2118 Central Ave. SE #86, Albuquerque, New Mexico 87106. Charles Martin. TEL: 505 852 4241.

E-MAIL: cmartin@nmsu.edu

WEB: <http://nmhga.com/>

North Carolina Herb Association (NCHA), 455 Research Drive, Fletcher, North Carolina 28732. TEL: 828 684 3562.

E-MAIL: jeanine_davis@ncsu.edu

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

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

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@rurallaction.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>

OCEANA

AUSTRALIA

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

TEL: +61 (0) 419 495 936

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 Plants Society, P.O. Box 5026, Old Toongabbie NSW 2146. TEL: 02 9631 4085 / FAX: 02 9631 4293.

E-MAIL: office@austplants-nsw.org.au

WEB: <http://www.austplants-nsw.org.au>

Australian Tea Tree Industry Association (ATTIA), PO Box 930, Casino NSW 2470 Australia.

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 Chuncho, 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

E-MAIL: jambikiwa@ch.pro.ec

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

E-MAIL: jenchala@yahoo.com

PERU

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

Asociación de Productores de Maca, Javier Pablo Castillo Güere, Presidente, Km. 243 Carretera Central, Shacayán, Junín, Perú. TEL: +51.64.9679002, E-MAIL: macajpcg@yahoo.com

Asociación de Productores de Maca Ecológica de la Provincia de Junín (APROMACA-EJUNIN), Luis Oswaldo Castillo Huerta, Presidente, Jr. San Martín N° 588, Junín, Perú.
TEL: +51-64-344060.

E-MAIL: informes@apromacae.com or notariope@yahoo.com

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

Asociación de Productores de Plantas Medicinales Ecológicas de La Unión - PERÚ (APROPLAME), Régulo Chirinos.

E-MAIL: aproplame@aedes.com.pe

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

E-MAIL: info@ippn.org.pe

WEB: <http://www.ippn.org.pe>



International
Trade
Centre



Street address
International Trade Centre
54-56 Rue de Montbrillant
1202 Geneva, Switzerland

P: +41 22 730 0111
F: +41 22 733 4439
E: itcreg@intracen.org
www.intracen.org

Postal address
International Trade Centre
Palais des Nations
1211 Geneva 10, Switzerland