US MARKET BRIEF 2003

THE US MARKET FOR NATURAL INGREDIENTS USED IN DIETARY SUPPLEMENTS AND COSMETICS, WITH HIGHLIGHTS ON SELECTED ANDEAN PRODUCTS

MARKET BRIEF ON
THE US MARKET FOR NATURAL INGREDIENTS USED IN DIETARY SUPPLEMENTS AND COSMETICS

ITC

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Prepared by Josef A. Brinckmann
brink@sonic.net
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List of abbreviations and terms

ABC:	American Botanical Council
AHPA:	American Herbal Products Association
AHP:	American Herbal Pharmacopoeia
ATPA:	Andean Trade Preference Act
Botanical Preparations:	Plantae medicinales praeparatore (Ph.Eur.) are obtained by subjecting botanical raw materials to treatments such as extraction, distillation, expression, fractionation, purification, concentration or fermentation. These include powdered herbs, tinctures, extracts, essential oils, expressed juices and processed exudates.
Botanical Raw Materials:	Plantae medicinales (Ph.Eur.) are mainly whole, fragmented or cut, plants, parts of plants, algae, fungi, 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 botanical raw materials
CBD:	Convention on Biodiversity
CIF:	Cost Insurance and Freight
CITES:	Convention on International Trade in Endangered Flora and Fauna
DSHEA:	Dietary Supplement Health and Education Act (DSHEA) of 1994
EU:	European Union
Extract:	Concentrated preparation of liquid (fluidextracts & tinctures), dry (dry extracts) or semi-solid (soft extracts) consistency obtained from botanical raw materials, prepared by maceration, percolation or other methods using solvents (e.g. water, ethanol, methanol) or by supercritical fluid (CO_2) technology
FAO:	Food and Agriculture Organization of the United Nations
FAS/USDA:	Foreign Agriculture Service United States Department of Agriculture
FAS Value:	Value of exports at the US 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 US port of export
FDA:	United States Food and Drug Administration
FD & C:	A prefix designating that a certified color can be used in foods, drugs or cosmetics
FOB:	Free on board
FTC:	United States Federal Trade Commission
GAP:	Good Agricultural Practice
GMP:	Good Manufacturing Practice
Herbal Teas:	Plantae ad ptisanam (Ph.Eur.) consist exclusively of one or more botanical raw materials intended for oral aqueous preparations by means of decoction, infusion or maceration.
HS:	Harmonized System Nomenclature
HTF:	Harmonized Tariff Schedule of the United States
ISO:	International Standards Organization
ITA:	International Trade Administration (US Department of Commerce)
ITC:	International Trade Centre UNCTAD/WTO
KG:	Kilograms
MFN:	Most Favored Nation
MT:	Metric tons
NAFTA:	North America Free Trade Agreement
NAICS:	North American Industry Classification System
NASS:	National Agricultural Statistics Service
NESOI:	Not elsewhere specified or included
Ph.Eur.	European Pharmacopoeia
SITC3:	Standard International Trade Classification Revision 3
UNSD:	United Nations Statistics Division
UpS	United Plant Savers
US:	United States of America
USDA:	United States Department of Agriculture
USITC:	United States International Trade Commission
USNF:	United States National Formulary
USP:	United States Pharmacopeia
VAT:	Value Added Tax

EXECUTIVE SUMMARY

This Market Brief profiles the US market for natural ingredients that are used in the cosmetic and/or dietary supplement industries, respectively, with highlights on selected Andean natural ingredients that have potential for capturing a larger share of the US market.

In this Market Brief, the US market for natural ingredients that are utilized in both cosmetics and dietary supplements are examined together. The reasons for joining the two sectors into one report is due, primarily, to the fact that many, or most, of the natural ingredient manufacturers and distributors operating in the US have positioned themselves as suppliers to manufacturers of both cosmetic and dietary supplement products, as well as to manufacturers of functional- or health-food products. Some natural cosmetic ingredients are marketed as "cosmeceuticals" while some dietary supplement ingredients are marketed as "nutraceuticals."

The range of natural ingredients covered in this report includes medicinal and aromatic herbs, medicinal herbal extracts and vegetable saps, pectic substances, vegetable mucilages and thickeners, ground-nut oils, fixed oils including castor oil, flaxseed oil, jojoba oil and hemp oil, vegetable waxes and insect waxes such as beeswax, cocoa butter, plant-based colorants such as annato seed, essential oils, resinoids, and oleoresins such as capsicum oleoresin.

Although the dietary supplement industry experienced dramatic double-digit growth throughout most of the 1990's, for the past three years the market has been almost flat. And while the sector may appear to be stagnant on the surface, there has been interesting and erratic movement within certain sub-sectors which has important implications for producers to consider for future raw material production planning purposes. Some product types have been rapidly spiraling down the charts while others are growing exponentially, making up the difference. There are clear indications, however, that the overall market is starting to pick up again, and certain sub-sectors appear to be driving the entire natural products category forward, for example certified organic natural products.

In general, demand for certified organic cosmetics, dietary supplements and natural foods is increasing, while the growth of non-organic natural products is slowing down. 100% organic products are up nearly 20%, and 95%+ organic products have seen nearly 30% growth over last year. Herbal teas are the second largest category within the National Organic Program (NOP)-coded product classifications, showing an approximate 9% growth rate in 2003. While the affluent baby boomer generation (40-60 year olds) has been the main driving force behind the natural products market, the organic sub-sector is being co-driven by a health-conscious and socially-conscious younger generation.

Aside from organic, demand is also increasing for certain age-related, condition-specific natural products, for example herbal products that have been clinically tested to alleviate conditions related to menopause. The serious medical risks of conventional hormone replacement therapy (HRT), which became highly publicized in mid 2002, became a boon for the dietary supplement industry as large numbers of American women switched to natural herbal alternatives to HRT. New products promising anti-aging benefits such as cosmeceuticals are also increasing in demand.

The size of the US dietary supplement market is presently estimated at between US $4 to $5 billion at retail level, depending on the product inclusion criteria and the method of analysis used. The size of the US natural personal care and cosmetic products market is estimated at just under US $4 billion at retail, while the newly emerging market for cosmeceutical products, which also accounts for some

natural ingredients, is estimated at about $3 billion. All together, the three categories amount to nearly $12 billion at retail. On the supply side, for the bulk natural ingredients covered in this Market Brief, the US imported over $1.7 billion in 2002 and exported over $1.3 billion.

Great care must be exercised, however, when applying the data provided in this report towards a determination of the total quantity and value of natural ingredients that are dedicated exclusively to an end-use in natural cosmetic and/or dietary supplement products in the US. While a significant portion of these natural ingredients are used in the cosmetic and/or dietary supplement trades, an unknown portion of the same ingredients is also used in several other product categories including conventional-, health- and/or functional- food products, alcoholic- and/or non-alcoholic beverages, conventional- and/or homeopathic- over-the-counter (OTC) or prescription drug products, pet products and tobacco products, among others product groups.

Future trends

In the past, the natural products market was driven largely by a series of "superstar" ingredients that were catapulted into the mainstream due, in part, to positive clinical research, often from European studies, for example echinacea herb & root for stimulating the immune system, St. John's wort herb for mild to moderate depression, black cohosh rhizome for menopausal conditions, kava rhizome for anxiety and stress, saw palmetto fruit for benign prostatic hyperplasia, ephedra herb for weight loss, and ginkgo leaf for cerebral insufficiency.

In the meantime, numerous reports of negative herb/drug interactions, adverse event reports and highly publicized quality control problems, among other issues, have had a serious negative impact on consumer confidence in the natural products sector. Some natural ingredients that were top-sellers only two years ago have plummeted, ephedra and kava in particular, as product companies quickly reformulate their products to remove these ingredients in an effort to reduce liability and avoid punitive regulatory actions.

The trend now appears to be towards natural ingredients and products that meet certain social criteria rather than towards the next superstar botanical, for example ingredients that not only have sufficiently documented evidence of safety and efficacy for conditions associated with aging (e.g. enlarged prostate, hair loss, memory loss, menopause, sexual dysfunction), but also those that are produced in an ecologically and economically sustainable manner, preferably certified organic or ethically wildcrafted, are documented to be free of genetically engineered components, are "cruelty free" or "not tested on animals," and are produced by companies that actively support cultural and environmental sustainability through investing some percentage of their profits in organic farms, reserves, or community outreach. There is also growing awareness among natural products consumers of labor conditions in developing countries evidenced by the fact that demand is also growing for "Fair Trade®" certified natural products as well as for clothing produced by "No Sweat Shop" accredited manufacturers, both logos providing some assurance to consumers that workers throughout the chain have been paid a living wage.

US natural product companies that promote the concept of conscious consumerism and that have also developed reciprocally beneficial relationships with their ingredient suppliers in the developing countries are finding that they can effectively market the story behind the product, especially if it involves successful, sustainable support for an indigenous community. A number of successful natural cosmetic and dietary supplement companies now promote their relationships with indigenous communities as a key selling point, and indeed they dedicate pages of their website content to tell the story.

Additional evidence of this trend is provided by a new market research group and journal (LOHAS JOURNAL) that defines the new natural marketplace under the acronym "LOHAS," which stands for Lifestyles of Health and Sustainability. The LOHAS marketplace is defined to include products and services that improve health, safeguard eco-systems, develop human potential in a sustainable manner, reduce the use of natural resources, and are created or conducted in a socially just manner.

Another example is provided by a new non-profit organization called "Living Libraries" that is promoting the concept of "Brands that Matter" by providing American consumers with information and recommendations on "green" herbal product companies that support economic and cultural sustainability in ways that concretely help indigenous communities to maintain their culture. Other social and environmental groups are also publishing consumer product guides including Greenpeace, which publishes a guide to products that are free of genetically engineered components, as well as numerous other organizations that are publishing various "cruelty free" consumer shopping guides and/or "certified vegan" shopping guides, both for listings of products that do not contain animal products and that have not been tested on animals.

Taking these trends into consideration, natural ingredients and products that meet one or more of the aforementioned health, quality and sustainability criteria have a good chance of future success in the US natural products market.

INTRODUCTION TO THE US MARKET

The market and the regulatory framework in the United States (US) for natural ingredients, particularly medicinal herbs and extracts, and the natural consumer products that are made from them, is unique by comparison to most of the US' top trading partners. Whereas countries such as Australia, Canada, and those of the European Union (EU) consider these products to be drugs, the US exist as an anomaly, having classified many natural health products as dietary supplements,[1] which are therefore regulated as a subset of food regulations, or as non-drug cosmetics. Many of the very same natural cosmetic and dietary supplement products in the US market are, in contrast, licensed over-the-counter (OTC) drugs in Australia, Canada, EU countries, as well as non-EU European countries like Switzerland.

FDA COSMETICS DEFINITION

The Food, Drug, and Cosmetic Act (FD&C Act) defines cosmetics by their intended use, as "articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body...for cleansing, beautifying, promoting attractiveness, or altering the appearance." Among the products included in this definition are skin moisturizers, perfumes, lipsticks, fingernail polishes, eye and facial makeup preparations, shampoos, permanent waves, hair colors, toothpastes, and deodorants, as well as any material intended for use as a component of a cosmetic product. Some products meet the definitions of both cosmetics and drugs. This may happen when a product has two intended uses. For example, a shampoo is a cosmetic because its intended use is to cleanse the hair. An anti-dandruff treatment is a drug because its intended use is to treat dandruff. Consequently, an antidandruff shampoo is both a cosmetic and a drug. Among other cosmetic/drug combinations are toothpastes that contain fluoride, deodorants that are also anti-perspirants, and moisturizers and makeup marketed with sun-protection claims. Such products must comply with the requirements for both cosmetics and drugs.

COSMECEUTICALS

While the FD&C Act does not recognize the term "cosmeceutical," the cosmetic industry uses this word to refer to cosmetic products that have medicinal or drug-like benefits. A product can be a drug, a cosmetic, or a combination of both, but the term "cosmeceutical" has no meaning under the law.[2]

FDA DIETARY SUPPLEMENT DEFINITION

FDA regulates dietary supplements under a different set of regulations than those covering "conventional" foods and drug products (OTC and prescription). The US Congress defined the term "dietary supplement" in the Dietary Supplement Health and Education Act (DSHEA) of 1994. A dietary supplement is a product taken orally that contains a "dietary ingredient" intended to supplement the diet. The "dietary ingredients" in these products may include: vitamins, minerals, herbs or other botanicals, amino acids, and substances such as enzymes, organ tissues, glandulars, and metabolites. Dietary supplements can also be extracts or concentrates, and may be found in many forms such as tablets, capsules, softgels, gelcaps, liquids (fluidextracts, juices, syrups, teas, tinctures), or powders. Whatever their form may be, DSHEA places dietary supplements in a special category under the general umbrella of "foods," not drugs, and requires that every supplement be labeled a dietary supplement.[3]

NUTRACEUTICALS

The term "nutraceutical" has no legal definition in the US. According to the Nutraceutical Institute, nutraceuticals (often referred to as phytochemicals or functional foods) are natural, bioactive chemical compounds that have health promoting, disease preventing or medicinal properties. According to Health Canada, a nutraceutical is a product isolated or purified from foods that is generally sold in medicinal forms not usually associated with food, demonstrated to have a physiological

benefit or provide protection against chronic disease.

NATURAL INGREDIENTS TRADE

The US is one of the world's leading producers, exporters and importers of natural ingredients that are used in natural cosmetics and dietary supplements, consistently ranking within the worlds top five importers and exporters. US domestic production statistics for most natural ingredients is not available with the exception of certain high-demand natural ingredients that are considered to be commodities such as flaxseed oil and peppermint oil.

The US imports, however, a larger quantity of natural ingredients than it exports. For the natural ingredient groups covered in this Market Brief, the total 2002 US import volume was 1,336,681,829 kg with a Customs Value of US $1,715,634,000 (See Table 2.2), while the total 2002 US export volume was 917,787,828 kg with a total FAS Value of US $1,323,451,000 (See Table 2.10). The leading suppliers of botanical raw materials are India and China, followed by Turkey, Mexico, Spain, Canada, Egypt, and Germany, among many others. The leading suppliers of essential oils and oleoresins are France, India, Argentina, China, Brazil and Mexico, among others.

CONSUMPTION AND TRENDS AT RETAIL

By the end of the 1990's, total retail sales of herbal products in the US were estimated at US $4.0 billion annual showing a 1.2% increase up to US $4.12 billion for year 2000.[4] According to a report by *Nutrition Business Journal*, the retail sales of finished herbal products in the US grew to US $4.18 billion during 2001, up from US $4.12 billion the previous year.[5] Some estimates for 2002 have been placed at about US $4.2 billion.[6] The FDA, however, has recently placed a much higher nominal market value total for herbal dietary supplement retail sales in CY 2000 at US $5.52 billion[7] (See Table 2.11).

Retail sales of natural products, however, have actually been declining in the mainstream markets (grocery, drug, and mass market retailers) for three consecutive years, while, at the same time, sales have been increasing in the natural foods supermarkets (9% growth 2000 to 2001).[8] These products have also entered a relatively new channel of trade, the newly emerging natural medicine or integrative retail pharmacies, and some are also sold in clinic dispensaries by natural healthcare providers such as licensed acupuncturists (L.Ac.), naturopathic doctors (N.D.), and chiropractic doctors (D.C.), but also by an increasing number of medical doctors (M.D.). Although medical professionals currently represent only a small part of the total US market for natural products, it is one of the fasted growing and most dynamic segments of the markets.[9] Finally, natural cosmetics and dietary supplements are also sold via international, direct marketing, multi-level companies such as Amway Corp., Herbalife, Nature's Sunshine Products, Shaklee Corp. as well as through a multitude of internet marketers.

Estimates of the US retail natural, consumer product industry size are often based on the analysis of "scan data" obtained from cooperating retail outlets. For example, Spence Information Services (SPINS) and ACNielsen Corporation jointly provide a service to industry on a subscription basis, called "ACNielsen SCANTRACK®: SPINS NaturalTrack," that tracks sales of natural and organic products (including various herbal product subcategories) in mainstream markets (food, drug and mass channels of distribution). The service combines point-of-sale purchase information from ACNielsen's SCANTRACK database, a statistically representative sample of markets across the US.[10] SPINS also tracks sales of natural products through natural product supermarkets. Another market research firm, Information Resources Inc. (IRI) also provides analysis of top-selling herbal products in the food, drug, and mass market retail outlets on a subscription basis. One of the largest mass merchandisers, Wal-Mart, however, does not provide sales scan data to market research companies.

It is difficult, however, to track the total size of the US natural products market based only on the aforementioned scan data analysis because the data is generally focused on a single product category, e.g. cosmetics, herbal dietary supplements, non-herbal dietary supplements, over-the-counter (OTC) drugs, or foods (including functional foods, health foods, nutritional beverages, etc.). One would therefore need to combine and analyze the natural products sales data from all relevant product categories in order to arrive at a more complete picture of the US natural products market at the retail level. For example, flaxseed (*Linum usitatissimum* L.), a.k.a. linseed, and flaxseed oil products are among the top-selling herbal products in the US, however IRI data categorizes flaxseed in its "non-herbal" supplement category,[11] presumably considering flaxseed oil to be a nutritional food supplement rather than as an herbal product.

Tracking the total annual sales of consumer products containing certain natural ingredients, for example cayenne fruit (*Capsicum annuum* L.), a.k.a. capsicum or paprika, is also complicated because this herb, in its various commercial forms (powdered fruit, dry- or fluid- extracts, or oleoresin), crosses over into most product categories, including cosmetics (e.g. Weleda Frost Cream), multi-herb dietary supplements (e.g. Nature's Way Ex-Stress Formula), health foods and nutraceuticals (e.g. various healthy drink mixes and snack foods), OTC homeopathic drugs (e.g. B&T® Indigestion Chewable Tablets), as well as in OTC topical preparations (e.g. Absorbine Jr.® Pain Relieving Liquid; Tiger Balm Warm Medicated Patches), and even in self defense products (e.g. Mace™ Pepper Gard® Pepper Spray).

Additionally, some of the top-selling herbal products are not (yet) represented in the aforementioned herbal or natural product scan data reports. This is especially the case for natural products that contain certain botanical raw materials or extracts that have official monographs published in the United States Pharmacopeia (USP), that may be used as active ingredients of either dietary supplement or OTC drug products (e.g. Plantago Seed USP, Psyllium Husk USP, Senna USP, Senna Fluidextract USP, Senna Syrup USP, Sennosides USP).

In the case of natural ingredients like Psyllium Husk USP (*Plantago ovata* FORSKAL, *P. psyllium* L., or *P. indica* L.), a bulk-forming laxative, and Senna USP (*Cassia acutifolia* DELILE or *C. angustifolia* VAHL), a stimulant laxative, the FDA allows these natural ingredients to be used as laxative active ingredients in either dietary supplement products or in OTC drug products, which can appear to be a confusing regulatory framework. For example, top-selling senna-based stimulant laxative products like Senokot® and X-PREP® Bowel Evacuant (both are products of Purdue Pharma L.P.) and ExLax® (a product of Novartis) are classified as OTC drugs, while other senna-based stimulant laxative products are regulated as dietary supplements (e.g. Bekunis® Senna Tea; NatureWorks® Swedish Bitters®, and Traditional Medicinals® Smooth Move®). Some of the top-selling bulk-forming laxative OTC drug products in the US contain psyllium husk and/or seed (e.g. Metamucil®, a product of Procter & Gamble Co.), but some of the leading US dietary supplement manufacturers also market psyllium-based bulk-forming laxative dietary supplement products (e.g. Nature's Sunshine; Nature's Way; Solgar, etc.). In these cases, both dietary supplement and OTC drug sales data need to be considered in order to arrive at total US sales of natural products that contain high-demand natural ingredients such as senna and/or psyllium.

NATURAL COSMETIC INGREDIENTS

The US is not yet a strong player in the global natural cosmetics ingredients market, and is still a net importer of essential oils used in cosmetics. On the other hand, US production of other natural cosmetics ingredients such as aloe vera, grown in southern Texas, and jojoba, grown in the Sonoran Desert in Arizona, has increased significantly in recent years. According to the Foreign Agricultural

Service (FAS), the export market for aloe vera, which is used in skin care products (aloe vera gel) as well as in dietary supplements (in the form of juice), is estimated to be somewhere in the hundreds of millions of US Dollars, and is expected to soon hit US $1 billion. About 90% of US-grown jojoba, which is used as a moisturizing ingredient in cosmetics and shampoos, is exported, mainly to cosmetic companies in Europe and Japan. Total US jojoba exports doubled between 1999 and 2000.[12]

SUPPLIERS OF NATURAL INGREDIENTS FOR COSMETICS AND DIETARY SUPPLEMENTS

Many, or most, of the natural ingredient manufacturers and distributors, operating in the US, sell to manufacturers of both cosmetic and dietary supplement products, as well as to manufacturers of functional- or health- food products. The product ranges offered by many consumer product manufacturers and marketers also include both cosmetic and dietary supplement products often under the same brand name. For example, leading international brands such as Weleda Inc., market not only herbal dietary supplement products, but also a broad range of natural personal care cosmetic products, as well as anthroposophic- and homeopathic- drug products.

Natural cosmetic products and ingredients are exhibited alongside dietary supplement products and ingredients (and homeopathic medicines) at the same trade show events in the US, e.g. natural ingredient supplier trade shows such as Supply Side East/West and consumer product trade shows such as Natural Products Expo East/West. The exhibitor profile at the Natural Products Expo includes leading manufacturers and marketers of personal care products (baby care, bath products, cosmetics and beauty aids, essential oils and fragrances, hair care, massage products, skin care, soaps, etc.), dietary supplements (including Indian Ayurvedic, traditional Chinese and Japanese herbal medicines, vitamins and minerals), homeopathic drugs, and natural and organic foods.[13]

To further illustrate the connection between the two sectors, with regard to natural ingredients that are common to both, many ingredient manufacturers and distributors in the US divide their list of offerings into sub-categories depending on the end-use. For example, one US extract manufacturer, **Bio-Botanica®**, advertises that it offers over 100 botanical extracts for use in cosmetic and beauty products, and over 100 botanical extracts in various forms (dry extracts, fluidextracts, soft extracts, tinctures) for use in food and beverage products, as well as over 300 botanical extracts for use in the dietary supplement, nutraceutical, and pharmaceutical products.[14]

Another US natural ingredient manufacturer, the **A.M. Todd Company**, describes itself as one of world's leading suppliers of botanical extracts and natural mint oils for the food, beverage, flavor, fragrance, cosmetic, dietary supplement and nutraceutical industries.[15] **Avoca, Inc.,** a subsidiary of **Pharmachem Laboratories**, Inc. claims to be the largest botanical extraction facility in North America and produces extract ingredients for the fragrance, pharmaceutical and dietary supplement industries.[16] **Pure World Botanicals** manufactures and markets solid-, fluid-, and powdered- extracts for the dietary supplement, food, beverage, and confection industries, respectively, and also offers an extensive line of specialty glycolic extracts for use as cosmetic ingredients.[17]

One of the world's leading manufacturers and marketers of natural ingredients, **Indena S.p.A.** of Milan, Italy (with a reported 170 million Euro in consolidated turnover in 2000), which has sales and marketing operations in the US, offers standardized dry-, oily- and soft- extracts, as well as pure molecules isolated from medicinal plants, and complexes of active principles and phospholipids, for use in cosmetic, dietary supplement, health food, and pharmaceutical products.[18] **Aloecorp**, one of the world's leading suppliers of aloe vera ingredients, advertises itself as a supplier to finished goods manufacturers in

the nutritional and dietary supplement, functional food, cosmeceutical, personal care and pharmaceutical industries.[19]

OPPORTUNITIES FOR EXPORTERS

Natural ingredients from South America, particularly Andean botanical raw materials and extracts, which have a unique opportunity for placement and growth in the US natural products market are discussed in this Market Brief (See: Market Prospects).

The strongest opportunities for natural ingredients from developing countries are those that are unique to a specific region and climate (e.g. cat's claw stem bark or maca root) and, therefore, cannot be easily or feasibly produced by the US, or, for that matter, by other leading world producers such as China and India. Additionally, the fasted growing natural ingredient sub-sectors include ingredients that are certified organic and/or certified Biodynamic®, which addresses the growing demand among natural products consumers for "green products" or "environmentally responsible products" that also promote sustainable agriculture, and for natural ingredients with other related certifications, such as FairTrade® certification, which addresses the growing concern that laborers throughout the chain should earn a sustainable living wage.

The US natural product consumer is also increasingly interested in "cruelty-free" ingredients, meaning that the ingredients have not been laboratory tested on animals and comply with criteria established by such animal protection organizations as People for the Ethical Treatment of Animals (PETA) and the National Anti-Vivisection Society (NAVS), as well as ingredients that are certified to be free of genetically engineered (GE) components. Organizations such as Greenpeace publish consumer guides listing non-GE products.

1. PRODUCT DESCRIPTION

This Market Brief covers natural ingredients that are used in the US cosmetics and/or dietary supplement industries, respectively, with highlights on selected Andean products, classified under the Harmonized System (HS) Codes listed in Table 1 below.

1.1 Customs and Trade Statistics Classification

The Harmonized Commodity Description and Coding System, generally referred to as "Harmonized System" or simply "HS", is a multipurpose international product nomenclature developed by the World Customs Organization (WCO). It comprises about 5,000 commodity groups, each identified by a six-digit code, arranged in a legal and logical structure and is supported by well-defined rules to achieve uniform classification. The system is used by more than 190 countries and economies as a basis for their Customs tariffs and for the collection of international trade statistics. Over 98% of the merchandise in international trade is classified in terms of the HS.[20]

For this Market Brief, the COMTRADE database, United Nations Statistics Division, was referenced to for 1997–2001 trade statistics. For 2002 trade data, the database of the US Department of Commerce, US Census Bureau was utilized. In the trade data of the US Census Bureau, up to 10 digits are used. Most of the natural ingredients that are used in the US cosmetics and dietary supplement industries, respectively, are not commodities and do not have their own exclusive HS Code. Therefore, most are grouped within a general product code.

The US Census Bureau merchandise trade statistics measure goods traded between the US and other countries. They are the official source of information about US imports, exports and balance of merchandise trade. As a leading economic indicator and a major component of the Gross Domestic Product (GDP), the statistics provide critical information to a wide and varied group of users in the public and private sectors. Sources for import statistics include 1) the U.S. Customs Service (Customs) Automated Broker Interface (ABI), 2) paper import entry summaries (Appendix A), and 3) paper or electronic applications for foreign trade zone admission. Sources for export statistics include 1) the Automated Export System (AES), 2) paper Shipper's Export Declarations (SEDs), and 3) Canadian data provided by Statistics Canada. Export declarations, either paper or electronic, are required for shipments to all countries except Canada, and are completed by exporters (US principal parties in interest) or their duly authorized agents who submit them to the exporting carrier who has the responsibility to submit them to Customs at the time of exportation.[21]

Table 1 Natural ingredients that are the subject of this Market Brief

HS Code	Product Description
0902	Tea leaf (green and black)
0903	Maté leaf
0904.20	Fruits of the genus Capsicum (cayenne pepper or paprika)
0909	Seeds of anise, caraway, coriander, cumin, fennel, etc...:
0909.10.0000	Anise seed
0909.20.0000	Coriander seed
0909.30.0000	Cumin seed
0909.40.0000	Caraway seed
0909.50.0000	Fennel seed and Juniper berries
0910	Ginger rhizome, turmeric rhizome, thyme herb, etc.:
0910.10.2000	Ginger rhizome, not ground
0910.10.4000	Ginger rhizome, ground
0910.30.0000	Turmeric rhizome
0910.40.2000	Thyme herb and bay leaf
1210	Hop strobile
1211	Plants and parts of plants (including seeds and fruits), of a kind used primarily in perfumery, in pharmacy or for insecticidal, fungicidal or similar purposes, fresh or dried, whether or not cut, crushed or powdered:
1211.10.0000	Licorice roots
1211.20.0020	Ginseng roots (American and Asian), cultivated
1211.20.0040	Ginseng roots (American and Asian), wild
1211.90.2000	Mint leaves (peppermint and spearmint), crude or not manufactured
1211.90.4020	Mint leaves (peppermint and spearmint) used as herbal teas
1211.90.4040	Mint leaves (peppermint and spearmint), cut, crushed or powdered
1211.90.9020	Psyllium seed husks, fresh or dried
1211.90.9031	Substances having anesthetic, prophylactic or therapeutic properties and principally used as medicaments or ingredients thereof
1211.90.9040	Basil leaf
1211.90.9050	Sage leaf
1211.90.9080	Plants and parts of plants, other than mint leaves, used as herbal teas
1211.90.9090	Other plants and parts of plants, used primarily in perfumery, in pharmacy (including cat's claw bark, dragon's blood croton, maca root, neem, senna)
1212.20.0000	Seaweeds and other algae
1301	Lac; natural gums, resins, gum-resins and oleoresins (for example, balsams)
1302	Vegetable saps and extracts; pectic substances, pectinates and pectates; agar-agar and other mucilages and thickeners, whether or not modified, derived from vegetable products:
1302.12.0000	Licorice root extract
1302.13.0000	Hop strobile extract
1302.19.4020	Crude ginseng extract
1302.19.4040	Other substances having anesthetic, prophylactic or therapeutic properties
1302.19.9020	Cashew nut shell liquid
1302.19.9040	Other vegetable saps and extracts, NESOI
1302.20.0000	Pectic substances, pectinates and pectates
1302.31.0000	Agar-agar
1302.32.0020	Guar seed mucilage
1302.32.0040	Locust bean mucilage
1302.39.0010	Carrageenan
1302.39.0090	Other mucilages and thickeners

1508	Ground-nut oil and its fractions, whether or not refined, but not chemically modified
1513	Coconut (copra), palm kernel or babassu oil and fractions thereof, whether or not refined, but not chemically modified
1515	Other fixed vegetable fats and oils and their fractions, whether or not refined, but not chemically modified:
1515.11.0000	Linseed (flaxseed) oil, crude
1515.19.0000	Linseed (flaxseed) oil, refined
1515.21.0000	Corn oil, crude
1515.29.0020	Corn oil, once-refined
1515.29.0040	Corn oil, fully-refined
1515.30.0000	Castor oil
1515.50.0000	Sesame oil
1515.90.2000	Nut oils, NESOI
1515.90.6000	Jojoba oil
1515.90.8010	Hemp oil
1515.90.8090	Fixed vegetable fats and their fractions, NESOI
1516.20	Vegetable fats and oils and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
1521	Vegetable waxes (other than triglycerides), beeswax, other insect waxes and spermaceti, whether or not refined or coloured:
1521.10.0010	Candelilla wax
1521.10.0040	Carnauba wax
1521.10.0060	Vegetable waxes (other than triglycerides) NESOI
1521.90.2000	Beeswax, bleached
1521.90.4000	Beeswax, unbleached and other insect waxes and spermaceti
1804.00	Cocoa butter, fat and oil
2101.20.2000	Tea leaf and maté leaf extracts, essences and concentrates
3203.00	Colouring matter of vegetable or animal origin (including dyeing extracts but excluding animal black), whether or not chemically defined; preparations as specified in Note 3 to this Chapter based on colouring matter of vegetable or animal origin
3301	Essential oils (terpeneless or not), including concretes and absolutes; resinoids; extracted oleoresins; concentrates of essential oils in fats, in fixed oils, in waxes or the like, obtained by enfleurage or maceration; terpenic by-products of the deterpenation of essential oils; aqueous distillates and aqueous solutions of essential oils

1.2 Expanded definitions of selected high-demand natural ingredients

American ginseng root (*Panax quinquefolius* L.) is a perennial plant, native to cool and shady hardwood forests of central-, eastern-, and northern North America. Harvested in the fall, the root is separated from the rhizome, and dried at low temperature. According to the *Pharmacopoeia of the People's Republic of China*, the dried root must contain not less than 1.0% of ginsenoside Rb_1,[22] and according to the *United States National Formulary*, not less than 4.0% of total ginsenosides.[23] The supply is produced mainly in Canada (Ontario & British Columbia), followed by the US (Wisconsin) and also China. It is used mainly as a dietary supplement in the form of herbal teas, chewing chips, fluidextracts, and powdered root or extract in capsules or tablets. Ginseng oil and extracts are used in a range of cosmetic products including bath oils, facial cleansers, hair care products (conditioners and shampoos), moisturizing creams, perfumes, skin lotions, soaps, and sunscreens.

Asian ginseng root (*Panax ginseng* C.A. MEYER) is a perennial plant, native to the montane forests of central eastern Asia. Cultivated mainly in in China, Korea, and Japan, the supply is imported mainly from China and Korea. According to the *United States National Formulary*, the dried roots must contain not less than 0.2% of ginsenoside Rg_1 and not less than 0.1% of ginsenoside Rb_1.[24] Its uses as a component of dietary supplement and cosmetics products are comparable to those of American ginseng root. See above.

Cat's claw bark (*Uncaria tomentosa* (WILLD.) DC), also known by its Peruvian names *uña de gato* and *garabato amarillo*,[25] and by its indigenous Asháninka name *savéntaro*,[26] is a woody vine native to Peru and other tropical areas of Central and South America. The plant is usually cut at the base and the vine is pulled down from the canopy to harvest the stem bark.[27] Extracts of cat's claw bark are used mainly as dietary supplements for supporting or improving immune system function as well as for arthritic conditions, and to a lesser extent as components of liquid preparations for topical application, sometimes in combination with other Andean botanicals such as dragon's blood croton (*Croton lechleri* MÜLL. ARG.).

Cayenne fruit (*Capsicum annuum* L. var. *minimum* (MILLER) HEISER and small fruited varieties of *Capsicum frutescens* L.), also known as capsicum, chilies, chili pepper, and paprika, is an annual (perennial in the tropics), native to tropical South America, now cultivated in tropical zones worldwide.[28] According to the *European Pharmacopoeia*, the dried ripe fruits must contain minimum 0.4% of total capsaicinoids.[29] The supply is cultivated in the southwestern US, and is also imported from Mexico, China, India and tropical African countries. Capsicum oleoresin and purified capsaicin are both used as components of analgesic creams and lotions. Cayenne tincture as well as preparations containing the tincture are also used. Capsicum extracts are used as components of cosmetics including dry hair care, dry skin care, insect repellent, sun care, and varicose vein products. The powdered fruit (in capsules or tablets), oleoresin, and tincture forms are used in dietary supplement products.[30]

Ginger rhizome (*Zingiber officinale* ROSCOE) is a perennial, cultivated plant, native to tropical southeastern Asia (no longer found in the wild). The main suppliers are India, China, Nigeria, Indonesia, but some of the supply also comes from the US (Hawaii), Costa Rica, Dominican Republic, and Jamaica. According to the *United States National Formulary*, the dried rhizome (scraped or unscraped) must contain not more than 0.18% shogaols and not less than 0.8% gingerols and gingerdiones. Ginger Tincture NF must contain not more than 0.034% 6-shogaol and not less than 0.10% of gingerols.[31] Ginger is widely used in dietary supplement products in the form of juice (in syrup base), herbal tea, oleoresin, and powdered rhizome or extract (in capsules or tablets), for promoting healthy

digestion, preventing morning sickness and motion sickness, for joint health (arthritic conditions). Ginger is also used as a secondary component in a wide range of categories including laxatives and liver tonics. Ginger essential oil and ginger aqueous infusions are used as components of cosmetics including creams, detergents, lotions, perfumes and soaps.

Green tea leaf (*Camellia sinensis* (L.) O. KUNTZE), a cultivated shrub, presumably native to China. The supply is imported mainly from China, India, Japan and other tropical or subtropical regions.[32] Green tea leaf is widely used in dietary supplement products (e.g. herbal teas, dry extracts in tablets or capsules) and as a component of cosmetics including deodorant sticks, eye gels, facial masks, facial moisturizers, hand and body lotions, shampoos, conditioners and hair rinses, soaps, sunscreens, and toothpastes.

Licorice root (*Glycyrrhiza glabra* L. *G. inflata* BATALIN, and *G. uralensis* FISCHER ex DC) is a perennial collected in the wild and cultivated. The world supply is produced mainly in China, Afghanistan, Azerbaijan, Iran, Pakistan, Syria, Turkey, Turkmenistan, Uzbekistan, as well as in Europe (Albania, Bulgaria, Italy). According to the *United States National Formulary*, dried licorice (roots, rhizomes, and stolons) must contain not less than 2.5% of glycyrrhizic acid (according to Ph.Eur., not less than 4.0%). Powdered Licorice Extract NF must contain not less than 6.0% of glycyrrhizic acid, and Licorice Fluidextract NF has no minimum requirement.[33] Licorice is widely used in dietary supplement products, particularly as a component of tonic formulas (liver, stomach), digestive-aids, laxatives, and especially upper respiratory tract, cough and sore throat formulas, in the form of teas, tinctures, fluidextracts, and powdered root or dry extract in capsules or tablets. Licorice extract is also used as a component of cosmetics including bath mixtures, douches, hand creams, hair care products (shampoo and conditioner), skin creams and gels, lotions, moisturizers, ointments, and skin-lightening creams.

Linseed (Flaxseed) oil is obtained by cold expression from ripe seeds of *Linum usitatissimum* L.[34] Canada is the world's leading producer of flaxseed accounting for 80% of world trade. Other major producers include China, the US and India.[35] Flaxseed oil is widely used in dietary supplement products as a source of essential fatty acids (EFAs). Flaxseed extracts and/or oil are also used as components of cosmetics including body milks, facial creams, moisturizing and emollient hand creams, softening massage oils, and it can be used in most any cosmetic product as an active principle or as a carrier in the oily phase.

Maca root (*Lepidium meyenii* WALP), is an herbaceous, perennial, cultivated crop, found only on the Andean central sierra of Peru (in Junín and Pasco), in the puna agro-ecological zone about 4,000 m.[36] Powdered maca root, maca root dry extract (in capsules or tablets), maca fluidextracts, and roasted maca (powder or granules for making coffee- or tea-like drinks) are marketed as herbal dietary supplements, mainly for enhancing fertility or treating sexual dysfunction.

Maté leaf (*Ilex paraguariensis* ST.- HIL.), also known as Paraguay tea or yerba maté, is an evergreen tree or shrub, cultivated between latitudes 30° and 20° south. The supply is imported from Brazil, Argentina, Paraguay,[37] Uruguay, Antigua and Barbuda, and Peru. Maté leaf contains 0.3–2.4% caffeine, according to the *German Drug Codex* (DAC), not less than 0.6% (green maté) and 0.4% (roasted maté).[38] Maté is mainly used in herbal dietary supplement products for fatigue, but also as a diuretic component of weight loss programs, in herbal tea, fluidextract or tincture forms. Maté extract is also used to some extent as a component of cosmetic skin care preparations.

Neem leaf / seed oil (*Azadirachta indica* J. JUSS.), is presumed to be native to Burma and NE India, and is now cultivated in many semi-arid and sub-humid areas of Asia, Africa, Australia, South America, and the southern United States.[39] The dried leaf or

extract are used as components of herbal dietary supplements taken orally (in capsules, tablets, and teas) to improve skin conditions (e.g. acne, hemorrhoids, psoriasis) and for lowering blood sugar levels (glycemic control). Neem seed oil is used as a component of cosmetics applied topically for acne, athlete's foot, candida, dandruff, eczema, fungus, headlice, herpes, psoriasis, etc., and as a component of hand and body lotions, face creams, oral hygiene products (mouth freshener, mouthwash, toothpaste), and soaps.

Psyllium husk is the cleaned, dried seed coat, separated by winnowing and thrashing, from the seeds of *Plantago ovata* FORSKAL, *Plantago psyllium* L., or from *Plantago indica* L.[40] Psyllium is widely used as a dietary fiber supplement, as a bulk-forming laxative, and as a supplement taken to reduce the risk of coronary heart disease as part of a diet low in saturated fat and cholesterol.

2. PRODUCTION, FOREIGN TRADE AND CONSUMPTION

The International Research Institute (IRI) has estimated the farm-level value of herbs produced in the North America to be more than US $1 billion, with the market growing at least 10 percent annually.[41] One of the high-demand medicinal plants cultivated and wild collected in the US (and Canada) is echinacea (various species), which has been estimated to account for about 10% of the US dietary supplement market.[42]

Some of the most important medicinal and aromatic plants cultivated on a relatively large-scale in the US, that are used both domestically as natural ingredients in dietary supplement and/or cosmetic products, and are also produced for the export market, include:

- Aloe vera (*Aloe vera* (L.) BURM. f.)
- American ginseng root (*Panax quinquefolius* L.)
- Cayenne fruit (*Capsicum annuum* L.)
- Echinacea purpurea flowering tops and root (*Echinacea purpurea* (L.) MOENCH)
- Feverfew leaf (*Tanacetum parthenium* (L.) SCH. BIP.)
- Flaxseed, a.k.a. linseed (*Linum usitatissimum* L.)
- Garlic bulb (*Allium sativum* L.)
- Hop strobile (*Humulus lupulus* L.)
- Jojoba seed (*Simmondsia chinensi* (LINK) C.K. SCHNEID.)
- Peppermint leaf (*Mentha x piperita* L.)
- Red clover blossom (*Trifolium repens* L.), and
- Soybean (*Glycine max* MERR.).

Some of the most economically important wild-collected medicinal plants in the US, that are used as natural ingredients in dietary supplement and/or cosmetic products (some are also used in drug products, e.g. slippery elm bark and witch hazel), include:

- Black cohosh rhizome (*Actaea racemosa* L.)
- Cascara sagrada bark (*Frangula purshiana* (DC.) J.G. COOPER)
- Echinacea angustifolia root (*Echinacea angustifolia* DC)
- Echinacea pallida root (*Echinacea pallida* (NUTT.) NUTT.)
- Goldenseal root (*Hydrastis canadensis* L.)
- Passionflower herb (*Passiflora incarnata* L.)
- Slippery elm bark (*Ulmus rubra* MUHL.)
- Saw palmetto fruit (*Serenoa repens* (W. BARTRAM) SMALL), and
- Witch hazel (*Hamamelis virginiana* L.).

The economic importance of the above listed cultivated and wild-collected medicinal and aromatic plants has been determined through cross-reference and analysis of various data sources including:

- Retail product sales scan data (e.g. Information Resources Inc. (IRI) and Spence Information Services (SPINS)),[43,44] and other independent market reviews (e.g. *Nicholas Hall's Insight*, among others)[45]
- Crop production, price, and import/export statistics published by the National Agricultural Statistics Service (NASS) of the United States Department of Agriculture (USDA), as well as data from farmer trade associations.
- U.S. Trade Quick-Reference Tables published by the Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce
- COMTRADE Database, United Nations Statistics Division
- Current botanical monographs published in the *United States Pharmacopeia*, the *United States National Formulary*,[46] the *American Herbal Pharmacopoeia*,[47] and/or

the *American Botanical Council Clinical Guide to Herbs*.[48]

Admission criteria for most herbal monographs published in the *American Botanical Council Clinical Guide to Herbs* is based on consistently high rankings in sales, in most channels of US retail trade (e.g. food, drug, mass market, and natural foods outlets) as reported by Information Resources Inc. (IRI), Spence Information Services (SPINS), and/or *Nutrition Business Journal* (NBJ).[49] Selection and prioritization of "dietary supplements" (including botanical raw materials and extracts) for admission to the *United States Pharmacopeia (USP) — National Formulary (USNF)*[50] is based upon several factors including:

1. Extent of use, based upon market sales or other factors
2. Historical use
3. Knowledge of chemical composition
4. Existence of other pharmacopoeial standards
5. Evidence of benefit
6. Interest from a governmental body
7. Absence of significant safety risk associated with its use.

Official monographs published in the USP designate that the article has an FDA-approved or USP-accepted use.[51] USP and USNF botanical monographs are FDA-enforceable and include descriptions, requirements, tests, analytical procedures, and acceptance criteria. USP is recognized in the Dietary Supplement Health and Education Act (DSHEA) amendments to the Federal Food, Drug and Cosmetic Act as the nation's official compendia for dietary supplement standards.

See Table 2 for an outline of top-selling monographed botanicals that are used in the US dietary supplement and cosmetic markets. Please refer to the section on Quality Requirements (Section 3.3) for a complete list of botanical raw materials and extracts that have official monographs published in either the USP or the USNF.

Table 2: TOP SELLING BOTANICALS IN THE US MARKET WITH MONOGRAPHS

HERB	ABC MONOGRAPH	AHP MONOGRAPH	Ph.Eur. MONOGRAPH	USP or USNF MONOGRAPH
Aloe leaf latex			Ph.Eur.	USP
American ginseng root	ABC	AHP*		USNF
Asian ginseng root	ABC		Ph.Eur.	USNF
Bilberry fruit	ABC	AHP	Ph.Eur.	
Black cohosh rhizome	ABC	AHP		USNF*
Cascara sagrada bark			Ph.Eur.	USP
Cat's claw bark	ABC			USNF*
Cayenne (Capsicum)	ABC		Ph.Eur.	
Chamomile (Matricaria)	ABC		Ph.Eur.	USNF
Chaste tree fruit	ABC	AHP		USNF*
Cranberry fruit	ABC	AHP		USNF
Echinacea root	ABC	AHP*		USNF
Eleuthero root	ABC		Ph.Eur.	USNF
Feverfew leaf	ABC		Ph.Eur.	USNF
Flaxseed (Linseed)	ABC		Ph.Eur.	
Garlic bulb	ABC	AHP	Ph.Eur.	USNF
Ginger rhizome	ABC		Ph.Eur.	USNF
Ginkgo leaf	ABC	AHP	Ph.Eur.	USNF
Goldenseal root	ABC	AHP		USNF
Green tea leaf	ABC			
Hawthorn leaf & flower	ABC	AHP	Ph.Eur.	USNF
Hop strobile			Ph.Eur.	
Horse chestnut seed	ABC			USNF
Kava-kava rhizome	ABC	AHP*		USNF*
Licorice root	ABC		Ph.Eur.	USNF
Milk thistle seed	ABC		Ph.Eur.	USNF
Nettle root				USNF*
Peppermint leaf	ABC		Ph.Eur.	USNF
Psyllium seed/husk			Ph.Eur.	USP
Pygeum bark			Ph.Eur.	USNF*
Red clover inflorescence				USNF
Saw palmetto fruit	ABC		Ph.Eur.	USNF
Senna leaf			Ph.Eur.	USP
Slippery elm bark				USP
St. John's wort herb	ABC	AHP	Ph.Eur.	USNF
Valerian root	ABC	AHP	Ph.Eur.	USNF
Willow bark		AHP	Ph.Eur.	

* Monograph in development

ABC: **American Botanical Council Clinic Guide To Herbs**
AHP: **American Herbal Pharmacopoeia**
Ph.Eur.: **European Pharmacopoeia**
USNF: **United States National Formulary**
USP: **United States Pharmacopeia**

2.1 Production data

Natural ingredients used in the cosmetic and dietary supplement industries are, for the most part, produced from medicinal and aromatic plants as starting materials. Worldwide, most medicinal plants are still collected in the wild but cultivation has increased significantly in recent years, and in the US, cultivation has increased particularly on certified organic and/or certified Biodynamic® herb farms. Some food crops are also categorized as medicinal herbs and/or natural ingredients, i.e. cayenne fruit, cranberry fruit, flaxseed, garlic bulb, among others.

In the US, there are 2,048 separate botanical species listed in the *American Herbal Products Association's Herbs of Commerce*, 2nd edition, including 25 fungi and 23 seaweeds. The *Herbs of Commerce* is an FDA-recognized compendium, and dietary supplement law requires product ingredients labeling to be consistent with the Standard Common Names (SCN) as defined in the *Herbs of Commerce*.[52] Cosmetic ingredients must use nomenclature found in the International Cosmetic Ingredient Dictionary and Handbook published by the Cosmetic Toiletries and Fragrance Association (CTFA).[53]

Of the ten top-selling herbal dietary supplement products in US food and drug channels during 2002,[54] five are native North American plants; (#3) echinacea herb and/or root (*Echinacea* spp.), (#5) saw palmetto fruit (*Serenoa repens* (W. BARTRAM) SMALL), (#8) cranberry fruit (*Vaccinium macrocarpon* AITON), and (#9) black cohosh rhizome (*Actaea racemosa* L.). Ginseng root is also listed in the top ten (#6), although this includes combined sales for both American ginseng (*Panax quinquefolius* L.) and Asian ginseng (*Panax ginseng* C.A. MEYER). The remaining five herbs in the ten top-selling list are non-native herbs that are, however, cultivated in the US, (#1) ginkgo leaf (*Ginkgo biloba* L.), (#2) garlic bulb (*Allium sativum* L.), (#4) soy bean (*Glycine max* MERR.), (7) St. John's wort herb (*Hypericum perforatum* L.), and (#10) valerian root (*Valeriana officinalis* L.). Single herbal products showing significant increases in demand include extracts of black cohosh rhizome, cranberry fruit, and milk thistle seed, respectively.

During the 1990's, the US ranked as the world's Nr. 3 country of import of medicinal plants categorized under HS 1211 with an average annual import volume of 56,000 tons valued at US $133,350,000. Conversely, the US ranked as the Nr. 4 country of export of HS 1211 medicinal plants with an average annual export volume of 11,950 tons valued at US $114,450,000.[55] This Marketing Brief, however, attempts to capture a wider range of natural ingredients that are used in the US cosmetics and dietary supplements industries, and therefore, several other HS Codes in addition to HS 1211 are included.

With certain obvious exceptions (e.g. herbs that have a single, specific use, i.e. stimulant laxatives like senna leaf), neither the exporter in the country of origin nor the importer and/or distributor in the US can easily predict the end-use of the natural ingredients that they market. For example, capsicum or cayenne fruit (HS 0904.20.2000) and/or its oleoresin (HS 3301.90.1010) cross over into most finished product categories. Another example to illustrate the difficulty of applying the total quantity and value of an HS Code to a specific sector is hop strobile (HS 1210) and extracts thereof (HS 1302.13). While hops is, in fact, mainly used for the production of beer, some amount of the supply is dedicated for use as a component of aromatherapy products (e.g. dream pillows), bath products (e.g. Kneipp® Hops Herbal Bath), cosmetics (e.g. Nature's Gate® Rainwater Herbal Shampoos; Weleda Iris Intensive Treatment Masque), herbal dietary supplements (e.g. GlaxoSmithKline Alluna™ Sleep; Traditional Medicinals® Nighty Night®), homeopathic drugs (e.g. B&T® Insomnia Chewables), and it is also used as a flavor component in nonalcoholic

beverages, candies, desserts, and baked goods.

Domestic production data is not available for the vast majority of natural ingredients covered in this Market Brief. The National Agricultural Statistics Service (NASS) of the United States Department of Agriculture (USDA) maintains area, yield, production, price and value of production data for some of the high-demand natural ingredients used in cosmetics and dietary supplements, for example capsicum fruit, cranberry fruit, flaxseed oil, garlic bulb, ginger rhizome, hop strobile, kava rhizome, soybean, spearmint leaf oil, and peppermint leaf oil.

Some domestic production data can also be obtained from various regional departments such as the Washington Agricultural Statistics Service (WASS), or market order boards (e.g. Market Orders Ginseng Board of Wisconsin), and some amount of data can be obtained from farmer trade associations (e.g. Hop Growers of America) or from tonnage surveys produced by the American Herbal Products Association, among other trade or governmental trade support organizations.

While some amount of natural ingredient production takes place in most of the 50 US States, the bulk of medicinal and aromatic plant cultivation is concentrated in a few specific regions. Relatively large-scale cultivation of catnip herb, cranberry fruit, echinacea herb & root, hop strobile, spearmint leaf, and peppermint leaf occurs in the Pacific Northwest, particularly in the States of Washington and Oregon, but also Idaho. Aloe vera is cultivated mainly in Texas, American ginseng root almost exclusively in Wisconsin, capsicum fruit mainly in New Mexico and Texas, cranberry fruit mainly in Wisconsin and Massachusetts, but also in the Pacific Northwest, flaxseed mainly in North Dakota, garlic bulb mainly in California, both ginger rhizome and kava rhizome in Hawaii, both ginkgo leaf and tea leaf in South Carolina, and jojoba bean in Arizona. Black cohosh rhizome is wild collected mainly in Kentucky and Tennessee, and saw palmetto fruit is wild collected almost entirely in Florida.

The US Census Bureau is also beginning to compile some general industry data on establishments primarily engaged in growing crops, including, specifically, the following botanical raw materials categorized under the North American Industry Classification System (NAICS)[56] sector codes:

NAICS SUB-SECTOR 111419
Garlic bulb, grown under cover
Ginger rhizome, grown under cover
Ginseng root, grown under cover
Herb farming, grown under cover
Spice farming, grown under cover

NAICS SUB-SECTOR 111998
Algae farming
Aloe farming
Chicory farming
Herb farming, open field
Hop farming
Jojoba farming
Mint farming
Seaweed farming
Spice farming
Tea leaf farming

The USDA Economic Research Service estimates that certified organic herbs (cultivated and wildcrafted), flowers, mushrooms, and other nursery and greenhouse crops were grown organically in the US on about 15,000 acres in 2001. Certified organic medicinal and culinary herbs were grown in 39 States, with Washington State being the largest producer, accounting for 2,644 certified organic herb acres. Other leading organic herb producer States include California, Oregon, Missouri, Wisconsin, Idaho, Ohio and New Mexico. Nearly 8,500 acres of forests, scrublands, and other natural areas in seven States were also certified in 2001 for the harvesting of organic herbs and other wild crops, i.e. mushrooms.[57]

2.1.1 Aloe vera

The NASS does not yet maintain annual production data on this relatively high-demand medicinal herb crop that is utilized in both the cosmetics and dietary supplement industries. The US Census Bureau groups aloe farming under the NAICS sub-sector 111998 (All Other Miscellaneous Crop Farming). The Texas Department of Agriculture Organic Certification Program presently has six certified growers of aloe vera leaf listed; Benson's Aloe Farms, Good Earth Organic Farm, LODC Inc., M2 Organic Farm, Millberg Farms, and Thoeni Aloe Vera. Aloecorp, which states that it is the world's largest aloe vera grower and processor, operates aloe plantations in both southern Texas and in the State of Tamaulipas, Mexico. According to the Texas Cooperative Extension, little data is available on annual production or sales value of Texas-grown aloe because the growers do not disclose production figures or discuss acreage.[58] It is estimated, however, that 2,000 acres of aloe vera are being harvested in the Rio Grande Valley, which accounts for 95% of all aloe grown in the US. An acre yields about 2,268 to 3,175 kg monthly, and growers net about US $500–700 for each acre harvested.[59] One of Japan's largest pharmaceutical chains, Harmony Green Corp., recently began aloe production in a 40,000 sq ft processing plant in Harlingen, Texas.[60] According to the Foreign Agricultural Service (FAS), the export market for aloe vera is estimated to be in the hundreds of millions and is expected to soon reach US $1 billion. Only a few US aloe vera producers export directly, and most sell their crops to wholesale distribution companies.[61]

2.1.2 American ginseng root

The NASS does not yet maintain annual production data on this relatively high-demand medicinal herb crop. The US Census Bureau groups ginseng farming under the NAICS sub-sector 111419 (Other Food Crops Grown Under Cover).

The US is the world's second largest producer (about 25% of world supply) of American ginseng root (*Panax quinquefolius* L.). Canada is the largest producer, accounting for over 60% of world production, and the balance (about 15%) is now cultivated in China.[62] There are an estimated 18,000 acres of ginseng under cultivation in North America (Canada & US).[63] Wisconsin is the number one producer in the US, accounting for about 90–95% of all ginseng produced in the US.[64] Cultivated ginseng generates up to $20 million annually in gross income for the State of Wisconsin. In 2001, Wisconsin had 890 ginseng dealers, including 485 licensed ginseng growers, accounting for 1,835 acres of seedling, two, three, and four-year-old gardens. About 85% of the crop is exported to Asia (mainly Hong Kong and Mainland China), and about 12% is sold to US buyers (7% New York, 5% California).[65] Yields can range anywhere from 900–1,800 kg per acre.

In the twelve-month period ending December 2002, the US exported 320,609 kg of cultivated American ginseng root with an FAS Value of US $11,360,000 (=$35.43/kg). Approximately 44.4% of the total was exported to Hong Kong, 39.2% to Mainland China, 6.2% to Canada, 4.1% to South Africa, 2.1% to Taiwan, 1.6% to Singapore, and 1.0% to Germany.

According to a February 2003 report by the Market Analysis Division of Agriculture and Agri-Food Canada, "China's accession into the WTO has provided greater market access for Canadian ginseng exporters. The tariff rate for ginseng in 2003 will be 10.7%, down from 11.8% in 2002 and 36% in 2001. For the years 2004-2006, the tariff rate will be reduced to 9.7%, 8.6%, and 7.5% respectively. A value-added tax of 13% will continue to be applied. The reduction in the tariff rates should help to make Canadian grown ginseng more competitive with North American ginseng produced in China."[66]

2.1.3 Black cohosh rhizome

The NASS does not yet maintain production data for this, mostly wild collected, economically important native North American medicinal plant. At retail, black cohosh is among the ten top-selling herbal dietary supplements, with sales increasing significantly, even while the sale of most other single-herb dietary supplements have been declining or are flat compared to 2001 sales.[67] The supply is collected mainly in the States of Kentucky and Tennessee, followed by Georgia, Ohio, North Carolina, Michigan, South Carolina, Virginia, West Virginia, and Wisconsin. In 1998, an estimated 272,000 to 318,000 kg was harvested, of which about 95% was wild collected. About 60% was exported, mainly to Germany,[68] where it is processed for re-export back to the US. The top-selling black cohosh product in the US, Remifemin®, is manufactured by Schaper & Brümmer GmbH & Co. KG (Salzgitter, Germany), and is distributed in the US by a pharmaceutical company GlaxoSmithKline (Philadelphia, PA). Schaper & Brümmer has also begun cultivating black cohosh in Germany, where it has about 8 acres planted at various stages of growth.[69]
In 2000, an estimated 136,079 to 226,798 kg was wild collected.[70] In 2002, the United States Fish and Wildlife Service (USFWS) reported that the average annual harvest from the wild is estimated to impact tens of millions of individual plants per year. Unauthorized collection of black cohosh on National Forests is reported to be extensive and incidents of poaching from National Parks has also been documented in recent years.[71] In 2003, the United States Forest Service is continuing to census and appraise sustainable harvest levels.[72] Meanwhile, cultivation experiments are also continuing as demand increases.

2.1.4 Cayenne fruit

The NASS maintains production data for cayenne fruit (a.k.a. capsicum, chili pepper and/or paprika). In 2002, cayenne fruit was among the top-selling herbal dietary supplements in food, drug, and mass market retail outlets.[73] In a 1999 herb sales survey, 23% of natural food store consumers purchased cayenne at least once during the first half of 1999.[74] Capsicum extracts or oleoresins are produced from cayenne fruit, and are used as components of cosmetics including dry hair care, dry skin care, sun care, and varicose vein products. The main cayenne producing State is New Mexico, followed by Texas, Arizona, and California, as shown in the table below. In 2002, the US imported 12,405,921 kg of cayenne fruit with a Customs Value of US$ 20,819,000 and exported 6,295,808 kg with an FAS Value of $11,796,000.

Year	Commodity	State	Unit	Area, Yield, Production, Price per Unit, and Value of Production					
				Planted	Harvested	Yield	Production	Price per Unit	Value of production
				Acres	Acres	Unit/Acres	Unit	Dollars/Unit	1000 Dollars
2002	Chile Peppers	AZ	1000 hundredweight	3200	3000	63	190	14.5	2759
2002	Chile Peppers	CA	1000 hundredweight	2800	2800	230	644	27.8	17914
2002	Chile Peppers	NM	1000 hundredweight	18000	17000	105	1800	29.2	52480
2002	Chile Peppers	TX	1000 hundredweight	6000	5500	50	275	40	11000
2002	Chile Peppers	US	1000 hundredweight	30000	28300	103	2909	28.9	84153

SOURCE: USDA NASS Agricultural Statistics Data Base

2.1.5 Cranberry fruit

The NASS maintains production data for cultivated cranberry fruit (*Vaccinium macrocarpon* AITON). See table below. The commercial supply comes entirely from cultivated material and the major producers are Wisconsin, Massachusetts, Canada, New Jersey, Oregon, and Washington.[75] Wisconsin, with its 220 licensed cranberry producers, accounts about 48% of all cranberries grown in the US.[76]

At retail, cranberry fruit, in various forms (juice, spray-dried juice powder and dry concentrate in capsules, tablets, or teas) is among the ten top-selling herbal dietary supplements, with sales increasing significantly, even while sales of most other single-herb dietary supplements have been declining or are flat compared to 2001 sales.[77] Even though cranberry fruit products are among the top-selling herbal dietary supplement products and cranberry juice is a popular food/beverage product, producer prices have been depressed and growers only broke even or lost money in 2002. The United States Department of Agriculture (USDA) initially forecast the 2002 cranberry crop at 5.72 million 100-pound barrels (up 7 percent from 2001 and less than 1 percent above 2000) but actual yields were below average in Wisconsin, while New Jersey farmers decreased production from a year ago, and drought conditions adversely affected crops in Massachusetts. The 2002 yield has now been estimated at about 5.3 million barrels, which will effectively reduce surpluses and possibly boost prices up to $35 a barrel next year. The cost of production ranges between $30- to $35-per-barrel and, up to this point, growers were anticipating receiving $21- to $23-per-barrel, well below the cost of production.

Cranberries: Production by State and United States, 2000-01 and Forecasted 2002 1/

State	Total Production		
	2000	2001	2002
	Barrels		
MA	1,953,000	1,416,000	1,780,000
NJ	489,000	566,000	410,000
OR	398,000	365,000	455,000
WA	180,000	142,000	168,000
WI	2,692,000	2,840,000	2,907,000
US	5,712,000	5,329,000	5,720,000

1/ A barrel weighs 100 lbs.

SOURCE: USDA NASS Agricultural Statistics Data Base

2.1.6 Echinacea

The NASS does not yet maintain production data for this, both cultivated and wild collected, economically important native North American medicinal plant. At retail, echinacea has consistently ranked among the five top-selling herbal dietary supplements for several years, although sales decreased significantly during 2002.[78] Up to this point, echinacea products have been estimated to account for about 10% of the total US dietary supplement market.[79] In the cosmetics sector, echinacea is also used as a component of topical use creams, ointments, and tinctures, particularly first-aid products for wound healing. It is also used as a component of skin care and hair care products such as creams, shampoos and conditioners, and soaps.

In 2000, there were an estimated 10,000 acres of echinacea under cultivation in North America (Canada & US) as well as an estimated 20,000 wildcrafted acres.[80]

Echinacea is cultivated on a relatively large scale in the Pacific Northwest. For example, over the past decade, it has been one of the major crops produced by Trout Lake Farm, a 1,200 acre farm with two locations in Washington State. It is also an important crop at somewhat smaller farms in the Pacific Northwest including Pacific Botanicals, a 114 acre certified organic farm in Grants Pass, Oregon and Herb Pharm Farm, an 85 acre certified organic farm in Williams, Oregon. Echinacea is also cultivated within its native range, the Great Plains States, and on the East Coast at the 250 acre Gaia Herb Farm in Brevard, South Carolina, among other farms. Growers in Kansas have estimated, for cultivated *Echinacea pallida* root, a yield of 100 grams per plant after the third year of growth, which is equivalent to about 862 kg per acre, and amounts to a value of about US $26,000 per acre not including production expenses.[81]

2.1.7 Essential oils

2002 was another record year for US exports of essential oils. Both exports and imports increased significantly compared to the same period in 2001. The categories in the total with the sharpest rises were mixtures of odoriferous substances, peppermint oil, and spearmint oil, rising approximately 20, 24, and 29 percent (value in dollars), respectively. Total 2002 US production of peppermint oil was 3,092,624 kg, of which 2,565,400 kg was exported, and 1,942,000 kg of spearmint was produced, of which 813,900 kg were exported.

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AREA/COUNTRIES OF DESTINATION AND COMMODITIES EXPORTED		JANUARY - DECEMBER VALUES IN 1000 DOLLARS					JANUARY - MARCH COMPARISONS		
		1998	1999	2000	2001	2002	2002	2003	%CHNG
WORLD TOTAL	ESSENTIAL OILS	529,405	530,326	599,087	689,199	798,562	188,135	210,980	12.14
TOTAL		529,405	530,326	599,087	689,199	798,562	188,135	210,980	12.14

Data Source: Department of Commerce, U.S. Census Bureau, Foreign Trade Statistics

2.1.8 Flaxseed (Linseed) and oil

Canada is the world's largest producer and exporter of flaxseed, accounting for 80% of the world supply. China, the US, and India are the other major producers. In the US, flaxseed is cultivated mainly in North Dakota, and to a much lesser extent in South Dakota, Montana, Minnesota, and other states. Production of flaxseed in 2002 totaled 12.6 million bushels, up 10 percent from the previous year. 704,000 acres were harvested in 2002, which is a 22 percent increase from 2001. In both 2000 and 2001, total US production of flaxseed oil was about 106.1 million kg.[82]

Retail sales of flaxseed-based dietary supplement products increased by 49.2% in 2002 compared to the same period in 2001 in food, drug and mass market retail outlets.[83] Ground flaxseed is used as a component of dietary supplements like Alena® Energy Drink (ENRECO™, Inc., Manitowoc, Wisconsin), and whole flaxseed is used in low glycemic & dietary fiber health foods like Uncle Sam® Cereal (U.S. Mills, Inc., Needham, MA). Flaxseed oil is a component of herbal dietary supplements such as Alphea™ soft-gel capsules (Bioriginal Food & Science Corp, Saskatchewan, Canada) and Lifestyle Lipids FLAX RELAX™ (Spectrum Essentials, Petaluma, CA). Flaxseed oil is also a popular single-ingredient dietary supplement marketed by several leading brands including Health From The Sun (Bedford, MA), Nature's Way (Springville, UT), and Spectrum Essentials® (Petaluma, CA).

Flaxseed extracts and/or oil are also used as components of cosmetics including body milks, facial creams, moisturizing and emollient hand creams, softening massage oils, and it can be used in most any cosmetic product as an active principle or as a carrier in the oily phase.

Crop Summary
Flaxseed: Value of Production,
United States, 2000-2002

Crop	Value of Production		
	2000	2001	2002
	1,000 Dollars		
Flaxseed	35,569	49,004	72,944

SOURCE: USDA - National Agricultural Statistics Service

Commodity	Year	State	Area, Yield, Production, Price per Unit, and Value of Production					
			Planted	Harvested	Yield	Production	Price per Unit	Value of production
			acres - thousand	acres - thousand	bushel	1000 bushels	dols / bu	1000 dollars
Flaxseed	2002	MN	6	5	18	90	5.7	513
Flaxseed	2002	MT	17	15	13	195	6.15	1199
Flaxseed	2002	ND	750	680	18	12240	5.8	70992
Flaxseed	2002	SD	12	4	11	44	5.45	240
Flaxseed	2002	US	785	704	17.9	12569	5.8	72944

SOURCE: USDA NASS Agricultural Statistics Data Base.

2.1.9 Ginger rhizome

The Hawaii Department of Agriculture maintains production statistics for ginger rhizome, and the US Census Bureau groups ginger farming under the NAICS sub-sector 111419 (Other Food Crops Grown Under Cover). Hawaii's ginger rhizome farmers harvested 6,531,797 kg during the 2001/02 season, down 20% from the previous season's revised estimate of 8,164,746 kg. Farm prices declined 33% to an average of US $0.66 kg during the 2001/2002 season, which is the lowest average price since the 1970/71 harvest, and total farm revenues were pegged at $4.3 million, down 47% from the 2000/2001 season.[84]

An influx of low cost Chinese ginger into the US market (50% of imports) has been blamed for a drop in local farm prices, so low that some farmers believe it may be uneconomical to harvest. Hawaii ginger growers were expected to plant 260 acres for harvest during the 2002/03 season, down 19% from the 320 acres harvested during the 2001/02 season. Based on the most recent 3-year average yield of 21,908 kg per harvested acre, the 2002/2003 crop would result in 7,030,754 kg, up 8% from the 2001/2002 harvest.

In 2002, ginger was among the 20 top-selling dietary supplements in food, drug and mass-market retail outlets.[85] Popular, clinically tested ginger-based dietary supplement products in the US market include Ginger Wonder Syrup (New Chapter, Brattleboro, VT), Zintona® capsules (Dalidar Pharma Ltd., Yavne, Israel), and Zinaxin® capsules (Eurovita A/S, Karlslunde, Denmark). Ginger essential oil and ginger aqueous infusions are used as components of cosmetics including creams, detergents, lotions, perfumes, shampoos, and soaps.

Hawaii Fresh Ginger Root Statistics
Acres harvested, yield per harvested acre, production, average farm price, and farm value
State of Hawaii, 2000-2002

Year [1/]	Acres harvested	Yield per harvested acre	Production	Average farm price	Farm value
		1,000 pounds		*Cents per pound*	*$1,000*
2000	270	50.0	13,500	66.0	8,910
2001	360	50.0	18,000	45.0	8,100
2002	320	45.0	14,400	30.0	4,320

[1/] Harvesting normally begins in December and continues into the year shown.

SOURCE: Hawaii Agricultural Statistics Service, Hawaii Department of Agriculture

2.1.10 Ginkgo leaf

The NASS does not yet maintain production data for this high demand medicinal herb crop. In 2002, ginkgo leaf extract products were the number one top-selling herbal dietary supplement in US food, drug, and mass-market retail outlets.[86] According to SPINS and AC Nielsen, sales of ginkgo products in the US equaled US $47 million in 2002.[87] US ginkgo leaf production, in the State of South Carolina, is second only to China, where the ginkgo tree is native. Garnay, Inc. operates a 1,200 acre ginkgo plantation in Sumter, South Carolina with 12 million ginkgo trees.

Popular, clinically tested ginkgo leaf extract products in the US market include Ginkai™ (Lichtwer Pharma AG, Germany), Ginkoba® (Pharmaton Natural Health Products, Switzerland), Ginkgold™ (Nature's Way, Springville, Utah). Ginkgo extract is also used as a component of a wide range of natural cosmetic and beauty products including skin creams and emulsions, facial cleansing lotions, cleansing tissues, liposome gels, masks and skin moisturizers, hair moisturizing jelly, shampoos, among others.

2.1.11 Hop strobile

According to the USDA National Hop Report, hops production in 2002 totaled 26.4 million kg, down 13% from the 2001 crop of 30.3 million kg, and 14% below the 2000 production of 30.7 million kg. The NASS table below, however, shows total 2002 production at 56.4 million lbs (= 25.6 million kg). All three hop-producing States (Washington, Oregon, Idaho) reduced their acreage in 2002. There was a 6,000 acre drop in Washington due to a grower sponsored, voluntary, acreage reduction program. Washington growers produced 74% of the US hops crop for 2002.

The US is the world's second largest producer of hops. Germany is number one and China is number three. The Hop Growers Association is calling on growers in both Europe and America to not grow any hops that are not already sold and not to speculate by growing hops for the spot market in 2003. Surplus inventories need to be brought down in order for a significant correction to occur in 2003.

Popular, clinically tested, hop-containing dietary supplements in the US include Alluna™ Sleep (GlaxoSmithKline, Pittsburgh, PA) and Bioforce® St. John's Wort Complex (Bioforce AG, Roggwil, Switzerland). Hops are also used in aromatherapy products (e.g. dream pillows), bath products (e.g. Kneipp® Hops Herbal Bath), cosmetics (e.g. Nature's Gate® Rainwater Herbal Shampoos; Weleda Iris Intensive Treatment Masque), and homeopathic drugs (e.g. B&T® Insomnia Chewables).

Commodity	Year	State	Area, Yield, Production, Price per Unit, and Value of Production				
			Harvested	Yield	Production	Price per Unit	Value of production
			acre	pounds	1000 lbs	dols / lb	1000 dollars
Hops	2002	ID	3385	1540	5212.9	1.58	8721
Hops	2002	OR	5577	1750	9759.8	2.13	20103
Hops	2002	WA	20320	2040	41452.8	1.95	84589
Hops	2002	US	29282	1927	56425.5	1.94	113413

SOURCE: USDA NASS Agricultural Statistics Data Base

2.1.12 Jojoba

Jojoba seed (*Simmondsia chinensi* (LINK) C.K. SCHNEID.) is a native plant of the Sonoran Desert in Arizona, California and Mexico, and US production occurs mainly in the State of Arizona, and to a much lesser extent in Southern California. Jojoba is cultivated on plantations but smaller amounts are also harvested as a by-product of desert fruit orchards (e.g. apricots, figs, grapes).[88] There are about 40 jojoba growers in the US.[89] Commercial jojoba plantations are also operating in Argentina (1,200 acres), Chile (18 acres), and Peru (140 acres), among other countries.[90]

According to the Agricultural Research Service (ARS) of the USDA, about 1.46 million kg of jojoba seeds are harvested annually, from which jojoba oil is produced, representing a market value of US $30 million. [91]

The Arizona Agricultural Statistics Service maintains production data for jojoba oil and the USDA Foreign Agricultural Service maintains export and import data. See both Tables below). The US Census Bureau groups jojoba farming under the NAICS sub-sector 111998 (All Other Miscellaneous Crop Farming).

About 80% of jojoba is used by the cosmetic industry (color cosmetics, hair and skin care formulations and other personal care product formulations).[92] The Desert Whale Jojoba Company of Tucson, Arizona states that it operates the largest commercial jojoba plantation in the US. The Purcell Jojoba Company has 1,200 acres under cultivation in Bouse, Arizona and the Boston Jojoba Company also operates a 940 acre jojoba farm in Arizona (See Appendix II). About 90% of US-grown jojoba, which is used as a moisturizing ingredient in cosmetics and shampoos, is exported, mainly to cosmetic companies in Europe and Japan. [93]

Jojoba: Arizona Acreage and Production

	1994	1995	1996	1997	1998	1999	2000
	Jojoba						
Harvested (Acres)	6,000	6,000	6,000	6,000	4,800	3,800	3,000
Production (1,000 Lbs)	1,800	1,800	1,800	1,800	1,525	1,140	900

SOURCE: Arizona Agricultural Statistics Service

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AREA/COUNTRIES OF DESTINATION AND COMMODITIES EXPORTED			JANUARY - DECEMBER QUANTITIES					JANUARY - MARCH COMPARISONS		
			1998	1999	2000	2001	2002	2002	2003	%CHNG
WORLD TOTAL	JOJOBA OIL	MT	377.2	391.6	354.6	347.7	193.8	28.6	34.9	22.03
TOTAL		MT	377.2	391.6	354.6	347.7	193.8	28.6	34.9	22.03

SOURCE: Department of Commerce, U.S. Census Bureau, Foreign Trade Statistics

2.1.13 Kava rhizome

In 2002, kava products were among the 15 top-selling herbal dietary supplements in US food, drug, and mass market retail outlets.[94]

US production of kava rhizome (*Piper methysticum* G. FORST.) occurs only in the State of Hawaii, where, as of December 2001, there were 65 farms cultivating kava. The Hawaii Agricultural Statistics Service (HASS) maintains production data on cultivated kava, and estimated farm revenues from the sale of kava at US $585,000 in 2001 were nearly five times the farm value recorded in 2000. According to the HASS, the boost in farm revenues was the result of a similar increase in farm production which totaled 204,119 kg fresh weight basis) in 2001. Average farm prices declined 7% to $2.87 per kg (average for fresh sales). An estimated 84,000 kava plants were in the ground as of December 31, 2001. Hawaii's main competitors in the world kava market are the Pacific Island nations of Vanuatu and Fiji.[95]

During 2002, however, bans on the use of kava took place in several countries around the world including Germany (formerly the largest kava importer), France, Japan, Canada, and Australia, among others, which has significantly impacted the world market for kava. Kava remains legal in the US, however, for use in dietary supplement products. The situation has been severe for producers and traders in Hawaii, whose kava exports to Europe had previously averaged about US $200,000 per month in 2001.[96]

Number of farms, acreage, sales, farm prices, and farm value, State of Hawaii, 2000 and 2001

Year	Number of farms	Acreage[1]		Total sales[3]	Average farm price[4]	Farm value
		Total[2]	Harvested			
				1,000 pounds	*Dollars per pound*	*$1,000*
2000	50	80	5	85	1.40	119
2001	65	70	35	450	1.30	585

[1] Includes kava inter-planted with another crop. [2] As of December 31. [3] Fresh weight basis. Dried kava ('awa) sales were converted to a fresh-weight basis by multiplying by five. Includes all types of sales, including organic. [4] Represents average farm price for fresh sales.

SOURCE: Hawaii Agricultural Statistics Service, Hawaii Department of Agriculture

2.1.14 Peppermint leaf and oil

The NASS maintains production data for peppermint leaf essential oil (see Table below). Over 90% of US peppermint leaf cultivation occurs in the Pacific Northwest States of Washington, Oregon and Idaho, followed by Indiana, Wisconsin, and Minnesota. Producing States have Market Orders Mint Boards, for example, the Wisconsin Mint Board represents nearly 50 licensed mint growers. The US produces more than 70% of the world's mint supply.[97] In 2002, a total of 80,200 acres were harvested in the US, producing a total of 3,092,624 kg of peppermint oil, of which 2,565,400 kg were exported.

97–98% of peppermint leaf acreage is dedicated to the production of essential oil, which is used extensively in toothpaste and mouthwash products, as well as in candy, chewing gum, dietary supplement, liqueur, and OTC drug products. Only an estimated 2,000–2,500 acres of peppermint, or about 2–3% of US total acreage, is dedicated to dried leaf production for end use in herbal teas and other herbal dietary supplement products. Peppermint oil is marketed by 6 to 7 dealers (brokers) in the US, who act as middlemen, purchasing the oil from the growers, and selling to both domestic and international end users. Examples of major end users include Warner Lambert Company and the Colgate-Palmolive Company.[98]

Popular, clinically tested, peppermint-containing dietary supplement products in the US include PhytoPharmaca Iberogast™ Tincture (manufactured by Steigerwald Arzneimittelwerk, Germany). Peppermint oil is also a component of a top-selling dietary supplement product marketed by GlaxoSmithKline, Remifemin® Menopause (Schaper and Brümmer GmbH & Co. KG, Germany). Three of the ten top-selling single-herb teas in the US are peppermint leaf teas marketed by various brands including Celestial Seasonings® (Boulder, CO) and Traditional Medicinals® (Sebastopol, CA). Peppermint oil is used in a wide range of natural cosmetic and beauty products, for example Burt's Bees Coconut Foot Creme (Burt's Bees, Inc., Durham, NC), Crudoleum® Shampoo (Edgar Cayce Products, Virginia Beach, VA), Dr. Bronner's PEPPERMINT Pure-Castile Soap (Dr. Bronner's Magic Soaps, Escondido, CA), Nature's Gate® Herbal Peppermint Toothpaste (Nature's Gate, Chatsworth, CA), and Olbas® Massage Oil (Synpharma AG, Switzerland). Peppermint oil is also widely used in herbal OTC drug products such as Olbas® Cough Syrup and Ricola® Natural Herb Cough Drops (Ricola Ltd., Switzerland).

Commodity	Year	State	Area, Yield, Production, Price per Unit, and Value of Production				
			Harvested	Yield	Production	Price per Unit	Value of production
			acres - thousand	pounds	1000 lbs	dols / lb	1000 dollars
Peppermint	2002	ID	17	90	1530	11.3	17289
Peppermint	2002	IN	9	46	414	10.7	4430
Peppermint	2002	MI	1	50	50	9	450
Peppermint	2002	OR	24	88	2112	13	27456
Peppermint	2002	WA	24	100	2400	10.9	26160
Peppermint	2002	WI	5.2	60	312	10.4	3245
Peppermint	2002	US	80.2	85	6818	11.6	79030

SOURCE: USDA NASS Agricultural Statistics Data Base

2.1.15 Saw palmetto fruit

Saw palmetto (*Serenoa repens* (W. BARTRAM) SMALL) is native to the Southeastern US, from South Carolina, Georgia, and Florida to southern Mississippi. Florida is the main producing State. In 2002, saw palmetto products were among the five top-selling herbal dietary supplements in US food, drug, and mass-market retail outlets.[99]

The NASS does not yet maintain annual production data for saw palmetto fruit. In 2000, about 7,000 acres of wild-crafted saw palmetto fruit were certified organic, however, in 2001, no organic certification of wild saw palmetto acreage was renewed.[100] The lack of organic certification for wild collected material in 2001 and 2002, however, is not an indicator of the total amount produced. A typical yield has been estimated at about 450 kg per acre, however yields can vary considerably.[101]

The Florida Department of Agriculture and Consumer Services, Bureau of License and Bond, is responsible for the licensing of dealers in saw palmetto in the State of Florida. As of May 2003, there were eight bonded dealers of saw palmetto fruit licensed in Florida, accounting for a total amount of just over 200,000 kg; Bravo Greens, Inc. (De Leon Spring, FL), Earth Balance (North Port, FL), Four C's Nursery (Palm Bay, FL), Gene McMillan Enterprises, Inc. (North Ft. Myers, FL), Native Technologies, Inc. (Fort Lauderdale, FL), North American Natural Resources, Inc. (Felda, FL), Plantation Medicinals, Inc. (Felda, FL), U.S. Nutraceuticals, L.L.C. (Eustis, FL).[102]

Popular, clinically tested, saw palmetto fruit extract products in the US include Elusan® Prostate (Plantes & Médecines, a division of Pierre Fabre Medicament, Toulouse, France), ProstActive™ (Nature's Way, Springville, UT) and Solaray® Guaranteed Potency Saw Palmetto (Nutraceutical Corp., Park City, Utah). Saw palmetto fruit extract is also used as a component of hair and skin care cosmetic products including topical hair solutions and transdermal body creams.

2.1.16 Tea leaf

In 2002, green tea leaf (*Camellia sinensis* (L.) KUNTZE) products were among the 20 top-selling herbal dietary supplements in US food, drug, and mass market retail outlets.[103]

The NASS does not maintain production data for tea leaf cultivated in the US. The US Census Bureau groups tea leaf farming under the NAICS sub-sector 111998 (All Other Miscellaneous Crop Farming).

The only commercial tea plantation in the US is the 127-acre Charleston Tea Plantation in South Carolina, which has recently been purchased by the R.C. Bigelow Tea Company, one of the leading herbal tea companies in the US. In recent years, there have also been efforts to develop tea leaf cultivation in both Hawaii and Oregon.

Green tea leaf is widely used in dietary supplement products (e.g. herbal teas, dry extracts in tablets or capsules). Black tea and green tea products are offered by most of the leading herbal tea brands including Celestial Seasonings® (Boulder, CO), R.C. Bigelow Tea Company (Fairfield, CT), Traditional Medicinals® (Sebastopol, CA), Tazo Tea (Portland, OR), and Yogi Tea (Eugene, OR), among others. Popular, clinically tested tea leaf products include Exolise® Caps (Health From The Sun, Bedford, MA). Tea leaf and extract are also used as components of cosmetics including deodorant sticks, eye gels, facial masks, facial moisturizers, hand and body lotions, shampoos, conditioners and hair rinses, soaps, sunscreens, and toothpastes.

2.2 IMPORTS

2.2.1 Total imports

Table 2.1 shows the quantity and value of total US imports of natural ingredients that are used in cosmetics and dietary supplements covered in this Market Brief, sorted by HS Code, for the period 1997–2001. Please refer to the Product Description section of this Market Brief for a detailed listing of the specific natural ingredients that fall under these general HS Code headings. Table 2.2 shows the quantity and value of total US imports of natural ingredients in more detail for year 2002. For example, data is provided for each individual essential oil rather than a single total for all essential oils grouped under heading HS 3301.

It is important to note, however, that the statistics for 2001 and 2002 were obtained from two different database sources, and therefore, due to certain inconsistencies regarding which sub-headings were included under the general heading code (in only a few cases, for example HS 1211 and HS 1302), calculating a percentage change from 2001 to 2002 is somewhat confounded. For that reason, it may be more instructive to assess the previous five-year data, 1997 through 2001, for the purpose of trend analysis.

Additionally, two significant events took place in the US that had a negative impact on imports during 2002 (as well as late 2001), thus making comparisons between 2001 and 2002 skewed for the purpose of trend analysis. Following the terrorist attacks on 11 September 2002, port security was tightened up and new emergency regulations were enacted that made exporting to the US more complicated, and lead-times for getting materials released by customs at the ports of entry also increased due to new requirements. Also, during 2002, there was an extended shutdown of all West Coast US ports (Los Angeles, San Francisco, Oakland, Seattle), by the employers due to a labor dispute with the Unions, which caused imports of all goods to be held up, in some cases, for months.

The pre-2002 import data contained in this Market Brief was obtained from the COMTRADE database, which had not yet made available its 2002 data at the time this report was prepared. Therefore, 2002 import data was extrapolated from the US Department of Commerce database (for which only Jan-Dec 2002 and 1st quarter of 2003 data was available).

In some cases, referring to the COMTRADE database, it was difficult or not possible to break out quantities and values for certain sub-headings that are not relevant to the US cosmetics and/or dietary supplement ingredients trade (e.g. coca leaf and opium). Therefore the pre-2002 statistics may include some ingredients that are not relevant to the US cosmetics and/or dietary supplement ingredient trade. However, in the 2002 import data that was extrapolated from the US Department of Commerce database, it was possible to subtract out certain non-relevant sub-headings. For example, the 2002 import data for heading HS 0910 does not include bay leaf, curry, spice mixes or other spices, whereas the 2001 data includes these natural ingredients that are not, however, relevant to the cosmetics and/or dietary supplement ingredient trade. Also, the 2002 import data for HS 1211 does not include coca leaf or poppy straw, while the 2001 data does include these natural ingredients that are, however, only used in prescription drug products. Finally, the 2002 import data for HS 1302 does not include opium or pyrethrum, while the 2001 import data includes these natural ingredients that are not, however, used in cosmetics or dietary supplement products, but rather in prescription drugs and insecticides, respectively.

Botanical raw materials

During the late 1990's, the US ranked as the world's Nr. 3 country of import of medicinal herbs categorized under the HS

Code 1211, and ranked as the Nr. 4 country of export.[104] During the five-year period 1997–2001, the top five suppliers of HS 1211 medicinal herbs to the US were China, India, Germany, Hong Kong, and Mexico. The HS trade classifications, however, place many high-demand medicinal herbs outside of HS 1211, for example ginger rhizome is grouped under HS 0910.

In 2002, the US imported 200,688,262 kg of botanical raw materials categorized separately under various HS Codes including HS 0902 (e.g. green tea leaf), HS 0903 (e.g. maté leaf), HS 0904.20 (e.g. capsicum fruit), HS 0909 (e.g. anise fruit, fennel fruit), HS 0910 (e.g. ginger rhizome, turmeric rhizome), HS 1210 (e.g. hop strobile), and HS 1211 (e.g. ginseng root, licorice root, peppermint leaf, psyllium husk, senna leaf), with a total value of US $331,813,000. When HS 1212.20 is added (seaweeds and other algae), the total quantity of botanical raw materials imported into the US in 2002 increases to 244,584,730 kg with a total value of US$ 373,453,000.

The top suppliers of botanical raw materials in 2002 were predominantly India and China, followed by Turkey, Mexico, Spain, Canada, Egypt, and Germany, among many others.

Value-added natural ingredients

Other natural ingredients categories imported for natural cosmetic and/or dietary supplement products, however, include such value-added forms as natural gums (HS 1301), mucilages, saps and herbal extracts (HS 1302), ground-nut oils (HS 1508), fixed vegetable oils like flaxseed oil, hemp oil and jojoba oil (HS 1515), beeswax and vegetable waxes (HS 1521), plant colorants like annatto seed (HS 3203), cocoa butter (HS 1804), as well as essential oils, resinoids and oleoresins including capsicum oleoresin (HS 3301).

In 2002, the US imported 32,205,814 kg of natural ingredients grouped under HS 3301 (essential oils, resinoids and/or oleoresins), up from 29,757,240 kg in 2001, with a total value of US $290,204,000, up from US $273,961,888 in 2001.

The top suppliers for essential oils and oleoresins in 2002 were France, India, Argentina, China, Brazil and Mexico, among others. Similarly, during the previous five-year period 1997–2001, the top five suppliers of essential oils and oleoresins to the US were France, India, Indonesia, China and Argentina.

Taking all of the relevant natural ingredient HS Codes into consideration, the total 2002 US import volume was 1,336,681,829 kg with a Customs Value of US $1,715,634,000 (See Table 2.2). The 2002 natural ingredients import quantity and value is somewhat lower than for the previous five-year totals, however, the possible reasons for the drop have been discussed earlier in this section.

YEAR	QUANTITY (kg)	VALUE (US$)
1997	1,563,471,927	2,741,172,069
1998	1,597,555,195	2,940,862,198
1999	1,395,050,744	2,666,451,525
2000	1,516,773,266	2,575,584,951
2001	1,570,595,986	2,297,793,910
2002	1,336,681,829	1,715,634,000

Caution must be exercised, however, when applying this data towards any determination of the total quantity and value of imported natural ingredients that are dedicated solely to an end-use in natural cosmetics and/or dietary supplements. While some portion of these natural ingredients are used in the cosmetic and/or dietary supplement trade, an unknown portion is also used in several other product categories including conventional-, health- and/or functional-food products, alcoholic- and/or non-alcoholic beverages, conventional- and/or homeopathic- over-the-counter (OTC) or prescription drug products, and tobacco products, among others.

TABLE 2.1 US IMPORTS OF NATURAL INGREDIENTS, 1997—2001, BY HS CODE
(Q : kilograms — V : USD $)

	1997		1998		1999		2000		2001	
	Q	V	Q	V	Q	V	Q	V	Q	V
TOTAL	1,563,471,927	2,741,172,069	1,597,555,195	2,940,862,198	1,395,050,744	2,666,451,525	1,516,773,266	2,575,584,951	1,570,595,986	2,297,793,910
HS 0902	81,215,832	147,451,584	96,646,240	182,011,392	92,864,464	164,987,376	88,287,168	162,001,728	96,668,128	172,678,112
HS 0903	343,796	654,315	350,966	704,230	431,280	909,374	556,458	1,019,590	873,611	1,548,248
HS 0904	89,445,592	267,910,576	97,555,264	312,823,584	113,604,912	365,333,760	112,591,832	359,625,824	124,307,296	249,699,024
HS 0909	17,428,408	24,191,020	18,872,820	24,355,290	18,942,136	21,667,554	19,997,834	27,840,948	20,618,108	31,213,310
HS 0910	29,688,356	62,651,140	31,383,148	64,331,032	34,355,040	68,358,952	37,596,672	72,860,008	38,115,512	66,011,876
HS 1210	4,968,624	33,455,090	5,004,604	32,071,528	5,059,426	30,382,014	5,025,995	29,756,110	4,633,253	24,980,136
HS 1211	71,909,208	166,813,888	62,297,928	186,550,624	53,084,552	144,761,264	50,332,504	143,705,392	55,737,340	148,215,616
HS121220	52,546,700	43,618,476	28,620,452	40,531,144	55,909,940	47,174,896	38,528,868	46,749,132	44,577,380	43,193,256
HS 1301	24,517,082	48,015,160	30,226,176	54,548,396	20,697,048	49,195,120	21,498,162	45,365,764	23,037,674	43,270,508
HS 1302	93,943,224	481,197,248	107,284,464	609,959,488	82,061,752	516,807,072	99,464,160	466,842,208	115,989,328	470,714,432
HS 1508	6,648,037	6,856,884	30,336,200	30,081,690	9,633,005	9,409,103	18,916,986	14,850,255	34,649,096	26,457,208
HS 1513	751,644,352	533,667,968	737,359,104	489,187,232	543,928,704	412,141,408	645,091,904	386,953,440	616,927,872	247,302,512
HS 1515	67,412,640	96,308,632	83,313,168	111,174,080	89,104,288	118,308,664	72,654,144	111,992,928	99,013,904	113,982,552
HS151620	108,728,504	80,928,000	117,481,016	101,053,808	98,576,432	75,062,328	102,037,512	63,877,740	108,169,864	61,357,976
HS 1521	6,252,520	30,204,536	6,187,993	23,122,652	7,445,923	24,190,620	6,317,911	22,422,032	6,299,861	19,966,816
HS 1804	87,689,208	349,512,672	65,307,016	273,138,080	80,475,568	237,468,272	94,648,560	210,839,712	80,805,680	171,747,376
HS210120	36,743,424	41,522,920	42,063,800	50,388,880	54,606,772	59,218,532	69,880,760	68,541,512	65,389,168	78,157,792
HS 3203	7,069,024	48,622,328	6,166,268	53,911,500	7,240,298	61,199,520	6,734,596	62,331,124	5,025,671	53,335,272
HS 3301	25,277,396	277,589,632	31,098,568	300,917,568	27,029,204	259,875,696	26,611,240	278,009,504	29,757,240	273,961,888

Source: COMTRADE Database, United Nations Statistics Division

TABLE 2.2 US IMPORTS OF INDIVIDUAL NATURAL INGREDIENTS: 2002 (Q: Kilograms — V: Thousands of US Dollars)

HS Code	Natural Ingredient Name	Q	V
0902.20.9000:	Green tea leaf	7,094,225	13,443
0902.40.0000:	Black tea leaf (& oolong)	76,663,197	101,082
0903.00.0000:	Maté leaf	1,050,604	1,456
0904.20.2000:	Paprika fruit (Capsicum)	12,405,921	20,819
0909.10.0000:	Anise fruit or badian	1,548,208	2,975
0909.20.0000:	Coriander fruit	3,628,923	2,272
0909.30.0000:	Cumin seed	7,985,002	13,307
0909.40.0000:	Caraway fruit	3,242,240	3,687
0909.50.0000:	Fennel fruit, Juniper berries	3,973,707	3,899
0910.10.2000:	Ginger rhizome, not ground	20,097,210	11,836
0910.10.4000:	Ginger rhizome, ground	1,017,742	1,004
0910.30.0000:	Turmeric rhizome (Curcuma)	2,383,313	2,955
0910.40.2000:	Thyme herb, Bay leaf	2,024,760	4,626
1210.10.0000:	Hop strobile (not powder or pellet)	2,389,938	13,729
1210.20.0020:	Hop strobile pellets	912,066	5,522
1210.20.0040:	Hop strobile, ground or powdered	32,879	240
1211.10.0000:	Licorice root	12,115,516	5,837
1211.20.0020:	Ginseng root, cultivated	76,880	2,122
1211.20.0040:	Ginseng root, wild	15,121	199
1211.90.2000:	Mint leaf, crude	136,206	269
1211.90.4020:	Mint leaf, used as herbal tea	110,932	483
1211.90.4040:	Mint leaf, crushed or powdered	105,982	425
1211.90.9020:	Psyllium seed husks	11,498,013	21,666
1211.90.9031:	Other therapeutic ingredients	1,502,804	7,410
1211.90.9040:	Basil leaf, crushed or powdered	4,908,346	9,582
1211.90.9050:	Sage leaf, crushed or powdered	2,552,910	4,888
1211.90.9080:	Other herbs used as herbal tea	6,991,948	23,639
1211.90.9090:	Other herbs used in perfumery or pharmacy	14,223,669	52,434
1212.20.0000:	Seaweeds and other algae	43,896,468	41,640
1301.10.0020:	Seed lac	1,179,493	2,453
1301.10.0060:	Other lac, NESOI	310,303	1,225
1301.20.0000:	Gum arabic	15,373,082	22,673
1301.90.9010:	Balsams	216,418	656
1301.90.9030:	Tragacanth natural gum	34,569	572
1301.90.9040:	Karaya natural gum	296,420	1,187
1301.90.9090:	Other natural gums, resins, gum resins	3,331,243	5,676
1301.90.4000:	Turpentine gum	125,025	92
1302.12.0000:	Licorice root extract	5,016,433	12,368
1302.13.0000:	Hop strobile extract	21,102	501
1302.19.4020:	Crude ginseng root extract	813,163	4,594
1302.19.4040:	Other therapeutic ingredients	20,897,774	87,445
1302.19.9020:	Cashew nut shell liquid	7,420,467	1,697
1302.19.9040:	Other vegetable (herbal) saps & extracts, NESOI	7,636,304	69,034
1302.20.0000:	Pectic substances, pectinates & pectates	5,372,906	56,358
1302.31.0000:	Agar-agar	982,817	15,139
1302.32.0020:	Guar seed mucilages & thickeners	37,023,223	33,614
1302.32.0040:	Locust bean mucilages & thickeners	2,345,957	14,585
1302.39.0010:	Carrageenan	7,802,750	50,134
1302.39.0090:	Other vegetable mucilages & thickeners, NESOI	445,989	1,835
1508.10.0000:	Ground-nut oil, crude	29,814,338	19,659
1508.90.0000:	Ground-nut oil, refined	1,293,848	1,102
1513.11.0000:	Coconut (Copra) oil, crude	316,710,743	115,985
1513.19.0000:	Coconut (Copra) oil, refined	167,775,099	56,435
1513.21.0000:	Palm kernel or babassu oil, crude	24,514,365	18,795
1513.29.0000:	Palm kernel or babassu oil, refined	148,699,885	60,661
1515.11.0000:	Flaxseed (Linseed) oil, crude	208,912	409
1515.19.0000:	Flaxseed (Linseed) oil, refined	5,598,797	6,253
1515.21.0000:	Corn (Maize) oil, crude	2,881,368	2,030
1515.29.0020:	Corn (Maize) oil, once-refined	10,415,029	5,347
1515.29.0040:	Corn (Maize) oil, fully-refined	13,883,647	7,408

HS Code	Natural Ingredient Name	Q	V
1515.30.0000:	Castor oil	32,338,529	21,517
1515.50.0000:	Sesame oil	10,431,887	27,488
1515.90.2000:	Nut oils NESOI	5,685,412	5,996
1515.90.6000:	Jojoba oil	288,017	1,906
1515.90.8010:	Hemp oil	288,342	1,965
1515.90.8090:	Other fixed vegetable fats and oil, NESOI	4,273,466	33,015
1516.20.1000:	Canola (rapeseed) oil	72,881,819	41,892
1516.20.9000:	Other vegetable fats and oils, NESOI	24,926,687	21,918
1521.10.0020:	Candelilla wax	457,671	1,698
1521.10.0040:	Carnauba wax	4,151,502	9,736
1521.10.0060:	Other vegetable waxes, NESOI	152,376	448
1521.90.2000:	Beeswax, bleached	122,479	465
1521.90.4000:	Beeswax, unbleached and other insect waxes	1,365,566	3,858
1804.00.0000:	Cocoa butter, fat and oil	54,788,302	136,561
2101.20.2000:	Tea leaf & maté leaf extracts	4,492,983	23,577
3203.00.1000:	Annato, archil, cochineal, cudbear, litmus, logwood and marigold meal	2,132,021	10,043
3203.00.8000:	Other colorants of vegetable or animal origin	2,672,757	33,979
3301.11.0000:	Bergamot orange essential oil	77,603	2,517
3301.12.0000:	Orange essential oil	10,984,807	32,262
3301.13.0000:	Lemon essential oil	3,417,642	46,077
3301.14.0000:	Lime essential oil	998,996	14,858
3301.19.1000:	Grapefruit essential oil	400,767	3,291
3301.19.5000:	Other citrus essential oils, NESOI	549,386	6,464
3301.21.0000:	Geranium essential oil	32,262	1,668
3301.22.0000:	Jasmine essential oil	7,730	1,688
3301.23.0000:	Lavender flower essential oil	452,129	6,931
3301.24.0000:	Peppermint leaf essential oil	526,926	8,395
3301.25.0010:	Cornmint leaf essential oil	546,087	3,802
3301.25.0020:	Spearmint leaf essential oil	570,329	7,990
3301.25.0050:	Other mint leaf essential oils, NESOI	83,756	1,340
3301.26.0000:	Vetiver essential oil	13,395	675
3301.29.1000:	Eucalyptus essential oil	845,988	5,346
3301.29.2000:	Orris essential oil	107	336
3301.29.5003:	Anise essential oil (anise fruit & star anise)	111,665	752
3301.29.5005:	Caraway fruit essential oil	5,726	202
3301.29.5007:	Cassia essential oil	287,260	7,505
3301.29.5009:	Cedarwood essential oil	24,486	382
3301.29.5011:	Citronella essential oil	416,043	2,843
3301.29.5013:	Clove essential oil	367,770	2,992
3301.29.5015:	Garlic essential oil	63,332	1,012
3301.29.5019:	Lemongrass leaf essential oil	40,436	604
3301.29.5021:	Linaloe or Bois de Rose essential oil	16,140	363
3301.29.5025:	Nutmeg essential oil	281,219	12,490
3301.29.5028:	Onion essential oil	28,656	938
3301.29.5029:	Patchouli essential oil	240,778	6,102
3301.29.5033:	Petitgrain essential oil	65,329	1,772
3301.29.5035:	Rose flower essential oil	3,931,134	3,526
3301.29.5037:	Rosemary leaf essential oil	99,319	1,635
3301.29.5039:	Sandalwood essential oil	30,981	7,852
3301.29.5041:	Sassafras essential oil	87,120	542
3301.29.5043:	Ylang ylang or cananga essential oil	35,969	1,359
3301.29.5050:	Other essential oils (except Citrus), NESOI	3,049,601	57,739
3301.30.0000:	Resinoids	231,909	4,627
3301.90.1010:	Capsicum (paprika) oleoresin	374,956	6,772
3301.90.1020:	Black pepper oleoresin	393,361	5,112
3301.90.1050:	Other extracted oleoresins, NESOI	758,730	9,997
3301.90.5000:	Other concretes & absolutes; concentrates, terpenic by-products, aqueous distillates and aqueous solutions of essential oils, NESOI	1,755,984	9,446
	TOTAL	1,336,681,829 kg	$1,715,634,000

2.2.2 Imports by product group

Table 2.3 provides an overview of US imports of selected natural ingredients that are used in the manufacture of cosmetic and/or dietary supplement products, with an emphasis on ingredients that are presently supplied, in part, by producers in the Andean nations. See Appendix I for more detailed import/export data 1998–2002 for these product groups.

Table 2.3 Imports by US of selected natural ingredients used in cosmetics and/or dietary supplements, with a focus on suppliers in South America, 2002, US$ / Kilograms / Top Suppliers

Natural Ingredient	Value US$	Volume (kg)	Top Suppliers to US
Agar-agar	$15,139,000	982,817	Chile, Morocco, Spain, China, Mexico
Capsicum fruit	$20,819,000	12,405,921	Spain, Peru, South Africa, Chile
Cocoa butter, fat and oil	$136,561,000	54,788,302	Indonesia, Malaysia, Brazil, China, Mexico, Singapore, Ghana, Thailand, Peru, Dominican Republic, Philippines, Colombia, Netherlands, Ecuador, Ivory Coast, Venezuela
Coloring matter	$44,022,000	48,037,778	Mexico, Ivory Coast, Ghana, Peru, Brazil
Garlic oil	$1,012,000	63,332	China, Colombia, Mexico
Ginger rhizome	$12,840,000	21,224,952	China, Brazil, Thailand, Costa Rica, India, Nicaragua, Australia, Hong Kong, Ecuador
Jojoba oil	$1,906,000	288,017	Mexico, Peru, Argentina, Israel
Lemon oil	$46,077,000	3,417,642	Argentina, Mexico, Ireland, Canada, Brazil
Lime oil	$14,858,000	998,996	Mexico, Peru, UK, Brazil
Maté leaf	$1,456,000	1,050,604	Argentina, Brazil, Antigua and Barbuda, Paraguay, Uruguay, Peru
Petitgrain oil	$1,772,000	65,329	Paraguay, France, Spain, Egypt, Uruguay
Sassafras oil	$542,000	87,120	China, Colombia, Vietnam

SOURCE: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Botanical raw materials

Table 2.4 shows the leading suppliers to the US in 2002 of selected botanical raw materials that are used in cosmetics and/or dietary supplement products.

See Appendix I for more detailed import/export data 1998–2002 for these product groups.

Table 2.4 US Imports of selected botanical raw materials used in cosmetics and/or dietary supplements, 2002, Top Suppliers / Volume (kg)

Natural Ingredient	Top Suppliers	Volume (kg)
Cayenne fruit	Spain	5,100,796
	Peru	3,465,830
	South Africa	1,540,011
	Chile	734,880
Ginger rhizome	China	13,138,936
	Brazil	2,366,639
	Thailand	2,178,923
	Costa Rica	1,287,528
Ginseng root, Asian	China	67,123
	Hong Kong	12,460
Green tea leaf	China	5,889,989
	India	350,018
	Taiwan	190,999
	Brazil	169,807
Hop strobile	Germany	2,107,165
	France	762,299
	Australia	229,185
Licorice root	Turkmenistan	5,301,068
	Azerbaijan	4,300,033
	Uzbekistan	1,125,363
	Afghanistan	425,909
Maté leaf	Argentina	567,475
	Brazil	312,480
	Antigua and Barbuda	67,999
	Paraguay	59,849
Mint leaf (Peppermint & Spearmint)	Egypt	98,361
	China	63,336
	Mexico	50,288
	Germany	30,795
Psyllium seed husks	India	11,464,991
	Albania	18,054
	New Zealand	14,968
Other medicinal herbs used mainly in herbal teas (other than mint)	China	1,555,688
	Germany	1,175,115
	Mexico	725,768
	Brazil	438,467
	Chile	424,536
Other medicinal herbs used mainly in perfumery and pharmacy	China	4,511,198
	India	2,210,015
	Mexico	1,559,833
	Morocco	622,769
	Thailand	502,254

SOURCE: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Seaweeds and other algae

In 2002, the US imported seaweeds and other algae mainly from Mexico (22,374,153 kg), Tanzania (4,889,814 kg), Canada (4,304,909 kg), the Philippines (3,111,303 kg), Chile (2,528,952 kg), Indonesia (1,951,111 kg), China (1,377,955 kg), Japan (930,810 kg), South Korea (906,117 kg), Norway (375,720 kg), the UK 361,377 kg), Peru (287,300 kg), Ireland (221,840 kg), and smaller amounts from many other countries. See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Lac, natural gums, resins, gum-resins and oleoresins (balsams)

Table 2.5 shows the leading suppliers to the US in 2002 of selected lacs, natural gums and resins that are used in cosmetics and/or dietary supplement products.

See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Table 2.5 **US Imports of selected lacs, natural gums and resins that are used in cosmetics and/or dietary supplements, 2002, Top Suppliers / Volume (kg)**

Natural Ingredient	Top Suppliers	Volume (kg)
Balsams	France	140,314
	Brazil	32,992
	India	30,503
Gum arabic	Chad	6,173,764
	France	5,993,081
	Sudan	1,170,000
	UK	920,764
Karaya natural gum	UK	164,845
	India	131,475
Seed lac	Thailand	1,104,436
	India	196,625
	UK	41,551
	Cyprus	37,506
Tragacanth natural gum	UK	33,369
Other natural gums, resins and gum resins	India	2,801,415
	China	76,686
	Spain	65,616
	Indonesia	58,901

SOURCE: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Vegetable saps, herbal extracts, pectic substances, mucilages & thickeners

Table 2.6 shows the leading suppliers to the US in 2002 of selected vegetable saps, herbal extracts, pectic substances, mucilages & thickeners that are used in cosmetics and/or dietary supplement products. See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Table 2.6 **US Imports of selected vegetable saps, herbal extracts, pectic substances, mucilages & thickeners that are used in cosmetics and/or dietary supplements, 2002, Top Suppliers / Volume (kg)**

Natural Ingredient	Top Suppliers	Volume (kg)
Agar-agar	Chile	390,246
	Morocco	175,400
	Spain	129,551
	China	99,625
Carrageenan	Philippines	2,743,197
	Denmark	1,464,468
	Canada	928,890
	France	797,622
Cashew nut shell liquid	India	5,000,000
	Brazil	2,420,467
Ginseng root extract	China	678,230
	Hong Kong	63,729
	South Korea	29,858
Guar seed mucilage	India	28,478,209
	Pakistan	6,788,196
	China	503,928
Hop strobile extract	Australia	10,750
	Germany	8,793
Licorice root extract	China	3,411,715
	Uzbekistan	699,500
	Israel	276,671
	Turkmenistan	240,433
Locust bean mucilage	Spain	1,457,838
	Italy	471,145
	Morocco	185,914
Other vegetable saps and herbal extracts	Mexico	4,704,206
	China	886,855
	France	477,697
	India	330,951
Other vegetable mucilages and thickeners	Ireland	117,572
	UK	108,592
	India	54,636
	Peru	42,000
Pectic substances	Denmark	1,666,755
	Mexico	1,642,279
	Germany	1,114,349
	France	414,976

SOURCE: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Ground-nut oil

In 2002, the US imported crude ground-nut oil mainly from Argentina (24,361,915 kg), Nicaragua (3,559,101 kg), Canada (1,820,215 kg), and refined ground-nut oil mainly from Germany (1,048,489 kg). See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Coconut oil, palm kernel or babassu oil

In 2002, crude coconut oil was imported mainly from the Philippines (257,092,803 kg), Indonesia (52,563,551 kg), and Malaysia (6,313,966 kg) and refined coconut oil also mainly from the Philippines (135,907,769 kg), Indonesia (27,087,047 kg), and Malaysia (4,498,926 kg).
Crude palm kernel oil or babassu oil were imported mainly from Malaysia (19,481,397 kg) and Indonesia (5,012,008 kg), and refined palm kernel oil or babassu oil were imported mainly from Malaysia (138,349,662 kg), Indonesia (8,492,100 kg), and the Philippines (1,490,231 kg). See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Other fixed vegetable fats and oils and their fractions (including castor oil, flaxseed oil, jojoba oil, and hemp oil)

Table 2.7 shows the leading suppliers to the US in 2002 of selected fixed vegetable fats and oils that are used in cosmetics and/or dietary supplement products. See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Table 2.7 US Imports of selected fixed vegetable fats and oils that are used in cosmetics and/or dietary supplements, 2002, Top Suppliers / Volume (kg)

Natural Ingredient	Top Suppliers	Volume (kg)
Castor oil	India	27,524,914
	Brazil	4,747,785
Flaxseed oil (crude & refined)	Canada	5,580,075
	Australia	92,943
	UK	65,260
	Netherlands	50,350
Hemp oil	Switzerland	164,436
	UK	21,965
	South Africa	15,280
	Canada	12,852
Jojoba oil	Mexico	102,151
	Peru	63,404
	Argentina	62,126
	Israel	48,005

SOURCE: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Hydrogenated vegetable fats and oils and their fractions

In 2002, the US imported canola oil mainly from Canada (72,835,066 kg). Vegetable fats and oils (other than canola) were also imported mainly from Canada (18,275,049 kg), as well as from India (2,704,483 kg) and Brazil (2,388,275 kg), and smaller amounts from many other countries. See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Vegetable waxes and insect waxes (beeswax)

In 2002, the US imported candelilla wax mainly from Mexico (456,267 kg), carnauba wax mainly from Brazil (4,016,550 kg), and other vegetable waxes mainly from China (96,030 kg), Japan (21,705 kg), Malaysia (16,000 kg), and Indonesia (10,000 kg). Bleached beeswax was imported mainly from Germany (86,180 kg) and Canada (25,602 kg) and unbleached beeswax (and other insect waxes) was imported mainly from China (299,282 kg), Canada (293,963 kg), Argentina (234,566 kg), Australia (107,336 kg), and smaller amounts from many other countries. See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Cocoa butter, fat and oil

In 2002, the US imported cocoa butter, fat and oil mainly from Indonesia (14,612,200 kg), Malaysia (10,835,405 kg), Brazil (8,230,491 kg), China (4,099,700 kg), Mexico (2,840,155 kg), Singapore (2,547,813 kg), Ghana (2,207,204 kg), Thailand (1,840,000 kg), Peru (1,240,000 kg), Dominican Republic (988,039 kg), the Philippines (939,940 kg), Colombia (939,850 kg), the Netherlands (851,050 kg), Ecuador (640,000 kg), Ivory Coast (580,819 kg), Venezuela (360,000 kg), Costa Rica (345,877 kg), Honduras (340,000 kg), and smaller amounts from many other countries. See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Tea leaf and maté leaf extracts, essences and concentrates

In 2002, the US imported tea leaf and/or maté leaf extracts, essences and concentrates mainly from India (1,594,331 kg), Japan (864,605 kg), Chile (604,293 kg), Kenya (530,366 kg), China (274,049 kg), Sri Lanka (114,912 kg), Brazil (107,862 kg), and smaller amounts from many other countries. See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Colouring matter of vegetable (annato) or animal (cochineal) origin

In 2002, the US imported colouring matter of vegetable or animal origin (annato, archil, cochineal, cudbear, litmus, logwood and marigold meal) mainly from the Ivory Coast (827,083 kg), Ghana (453,453 kg), Peru (291,024 kg), Guatemala (164,105 kg), Dominican Republic (105,082 kg), Brazil (92,653 kg), and smaller amounts from many other countries.

Other colouring matter of vegetable or animal origin (NESOI) were imported mainly from Mexico (1,062,603 kg), the Netherlands (266,572 kg), France (194,007 kg), Brazil (187,217 kg), Spain (174,466 kg), Italy (146,080 kg), Australia (131,850 kg), and smaller amounts from many other countries. See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Essential oils (terpeneless or not), including concretes and absolutes; resinoids; extracted oleoresins; concentrates of essential oils

Table 2.8 shows the leading suppliers to the US in 2002 of selected essential oils and oleoresins that are used in cosmetics and/or dietary supplement products. Table 2.9 show US imports of essential oils from the 35 leading suppliers 1998–2002. About two-thirds of total essential oil imports to the US come from just eight countries; France, India, Argentina, China, Brazil, Mexico, Indonesia, and Canada. See Appendix I for more detailed import/export quantity and value data 1998–2002 for these product groups.

Table 2.8 US Imports of selected essential oils and oleoresins that are used in cosmetics and/or dietary supplements, 2002, Top Suppliers / Volume (kg)

Natural Ingredient	Top Suppliers	Volume (kg)
Capsicum oleoresin	India	174,453
	Spain	160,482
	Morocco	26,176
	South Africa	8,000
Eucalyptus oil	China	631,689
	Brazil	51,300
	Taiwan	50,210
	Germany	39,223
Lavender oil	France	414,024
	Spain	6,399
	Belgium	5,900
	Bulgaria	5,729
Lemon oil	Argentina	2,301,879
	Mexico	173,839
	Ireland	134,400
	Canada	120,352
Lime oil	Mexico	677,356
	Peru	117,951
	UK	84,820
	Brazil	72,115
Orange oil	Brazil	7,791,989
	Costa Rica	822,775
	Mexico	758,477
	Canada	429,872
Other citrus oils	Italy	183,325
	China	150,441
	Mexico	63,000
	Brazil	33,020
Peppermint oil	India	395,863
	China	54,062
	Chile	25,684
	UK	14,388
Rose oil	Chile	1,145,900
	Pakistan	1,125,000
	France	699,803
	Bulgaria	347,740
Spearmint oil	China	308,917
	India	144,940
	Canada	106,995
	Italy	4,368

SOURCE: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

TABLE 2.9 US IMPORTS OF ESSENTIAL OILS
CY 1998–2002, IN THOUSANDS OF US DOLLARS

IMPORT MARKETS	2002 RANK	1998	1999	2000	2001	2002
		CALENDAR YEARS (JAN-DEC)				
LEADING 35 COUNTRY SUPPLIERS						
FRANCE	1	46,991	48,661	46,897	43,332	48,856
INDIA	2	31,898	26,999	32,506	31,161	36,565
ARGENTINA	3	19,497	16,036	33,785	26,513	33,265
CHINA, PEOPLES REPUBLIC OF	4	25,123	25,912	24,320	27,014	26,777
BRAZIL	5	26,190	19,717	24,751	20,620	26,487
MEXICO	6	19,559	17,307	18,316	19,888	20,794
INDONESIA	7	35,293	20,339	17,028	24,896	19,281
CANADA	8	19,097	17,609	21,662	19,849	19,091
UNITED KINGDOM	9	16,025	16,475	15,149	18,026	16,528
GERMANY	10	11,124	10,953	11,493	11,262	15,510
SWITZERLAND	11	12,375	7,781	6,139	7,375	12,886
SPAIN	12	15,204	10,889	11,378	8,871	11,110
JAPAN	13	7,790	7,117	8,877	8,764	10,380
ITALY	14	6,856	9,514	9,157	8,969	8,632
NETHERLANDS	15	10,103	7,901	8,659	7,940	7,637
ISRAEL	16	2,262	5,283	5,620	3,844	5,213
SOUTH AFRICA, REPUBLIC OF	17	1,191	1,898	2,353	5,538	4,835
AUSTRALIA	18	4,850	4,853	5,534	3,547	2,753
BULGARIA	19	2,339	2,619	1,480	1,194	2,004
IRELAND	20	24,665	31,537	1,789	1,563	1,900
PERU	21	1,571	1,536	1,554	1,903	1,828
COSTA RICA	22	439	371	1,050	843	1,791
GUATEMALA	23	957	1,534	1,676	1,283	1,779
SINGAPORE	24	997	2,835	1,104	1,462	1,610
LEEWARD-WINDWARD ISLANDS	25	55	61	34	0	1,607
PARAGUAY	26	1,477	1,782	1,791	1,935	1,538
SRI LANKA	27	4,270	2,082	1,475	1,658	1,520
CHILE	28	1,686	1,666	1,853	1,383	1,518
UNITED ARAB EMIRATES	29	179	0	51	259	1,460
AUSTRIA	30	2,454	2,259	724	1,590	1,456
EGYPT	31	1,989	1,644	1,449	1,812	1,412
HUNGARY	32	1,297	1,169	666	1,145	1,311
TURKEY	33	1,061	1,398	1,552	970	1,259
RUSSIAN FEDERATION	34	299	308	500	482	1,183
JAMAICA	35	1,477	803	1,279	1,029	1,070
REST OF WORLD	-	1,213	9,957	10,846	11,978	10,287
IMPORT CONCENTRATION RATIOS (% OF TOTAL)						
TOP MARKET	-	13	14	14	13	13
TOP 4 MARKETS	-	38	39	41	39	40
TOP 8 MARKETS	-	62	61	66	65	64

ANALYSIS BY: COMMODITY AND MARKETING PROGRAMS/FAS/USDA
SOURCE: U.S. BUREAU OF THE CENSUS TRADE DATA

2.3 Exports

Table 2.10 shows total US exports of natural ingredients for 2001 and 2002, sorted by HS Code. Please refer to the Product Description section of this Market Brief for a listing of the specific natural ingredients that fall under these general HS Code headings. For the natural ingredients covered in this Market Brief, in 2002, the US exported a total of 917,787,828 kg with a total FAS Value of US $1,323,451,000, up just over 1% in value from total 2001 exports, which were valued at US$ 1,309,094,879, representing 836,520,004 kg of natural ingredients.

It is important to note, however, that the statistics for 2001 and 2002 were obtained from two different database sources, and therefore, due to certain inconsistencies (in only a few cases, e.g. HS 1211 and HS 1302), regarding which sub-headings were included under the general heading code, the growth percentage is likely to be slightly greater than 1%.

The pre-2002 export data contained in this Market Brief was obtained from the COMTRADE database, which had not yet made available its 2002 data at the time this report was prepared. Therefore, 2002 export data was extrapolated from the US Department of Commerce database. In some cases, referring to the COMTRADE database, it was difficult or not possible to break out quantities and values for certain sub-headings that are not relevant to the US cosmetics and/or dietary supplement ingredients trade (e.g. coca leaf and opium). Therefore the pre-2002 statistics may include some ingredients that are not relevant to the US cosmetics and/or dietary supplement ingredient trade. However, in the 2002 export data that was extrapolated from the US Department of Commerce database, it was possible to subtract out certain non-relevant sub-headings. For example, the 2002 export data for heading HS 0910 does not include bay leaf, curry, spice mixes or other spices, whereas the 2001 data includes these natural ingredients that are not, however, relevant to the cosmetics and/or dietary supplement ingredient trade. Also, the 2002 export data for HS 1211 does not include coca leaf or poppy straw, while the 2001 data does include these natural ingredients that are only used in prescription drug products. Finally, the 2002 export data for HS 1302 does not include opium or pyrethrum, while the 2001 export data includes these natural ingredients that are not, however, used in cosmetics or dietary supplement products, but rather in prescription drugs and insecticides, respectively.

Worth noting is that exports of category HS 1515, which includes castor oil, corn oil, flaxseed oil, jojoba oil, and nut oils, etc., increased significantly from a 2001 FAS Value of US $307,503,456 to a 2002 FAS value of US $402,597,000. Significant increases in exports for category HS 1516.20, which includes canola oil and other hydrogenated vegetable fats and oil, also took place increasing from a 2001 FAS Value of US $87,347,120, up to a 2002 FAS value of US $105,065,000.

Exports of natural ingredients grouped under heading HS 1211, the category that includes many medicinal herbs that are used primarily in perfumery and pharmacy (e.g. ginseng, licorice, peppermint), appears to have dropped from a 2001 value of US $78,890,752 to a 2002 value of US $69,888,000. However, the actual drop in this category is confounded by the fact that the 2002 data had certain drug materials such as coca and poppy subtracted out. Highlights under HS 1211 include exports of American ginseng root (cultivated and wild), which was exported mainly to Hong Kong (242,574 kg), China (171,781 kg), Canada (19,964 kg), the UK (16,820 kg), South Africa (13,136 kg), and smaller amounts to many other countries. Licorice root was mainly (re)exported to the UK (92,538 kg), Hong Kong (75,342 kg), Canada (64,729 kg), Japan (28,744 kg), and smaller amounts to other countries (Note: There is no commercial cultivation of licorice root in the US, so these are apparently re-exports). Miscellaneous medicinal herbs

(other than mint leaf) that are used primarily as herbal teas were exported mainly to Ireland (782,520 kg), Canada (497,184 kg), Hong Kong (146,369 kg), Mexico (118,394 kg), Japan (63,350 kg), Sweden (46,422 kg), Germany (37,490 kg), Israel (31,753 kg), the UK (29,043 kg), and smaller amounts to many other countries. And, miscellaneous medicinal herbs that are used primarily in perfumery and pharmacy were exported mainly to Germany (2,107,204 kg), Canada (1,274,521 kg), Japan (752,335 kg), Italy (368,744 kg), Mexico (352,694 kg), the Netherlands (248,229 kg), the UK (183,005 kg), Australia (110,012 kg), Turks and Caicos Islands (90,720 kg), and smaller amounts to many other countries.

Exports of natural ingredients under heading HS 1302, which includes herbal extracts, mucilages, pectic substances, and saps, also dropped considerably from a 2001 value of US$ 260,477,376, down to a 2002 value of US$ 236,833,000.

Total US exports of essential oils and oleoresins (including capsicum oleoresin), grouped under heading HS 3301, stayed about the same with a 2001 value of US $298,770,016, down slightly to a 2002 value of US $297,161,000.

TABLE 2.10 US EXPORTS OF NATURAL INGREDIENTS, 2001-2002, BY HS CODE
(Q : kilograms — V : USD $)

	2001		2002	
	Q	V	Q	V
Total exports	**836,520,004**	**1,309,094,879**	**917,787,828**	**1,323,451,000**
HS 0902	5,963,116	23,690,112	4,350,700	16,338,000
HS 0903	12,768	74,837	31,781	90,000
HS 0904	10,915,227	25,608,298	8,637,129	18,028,000
HS 0909	1,639,723	2,985,946	826,108	1,294,000
HS 0910	7,689,029	21,574,798	898,119	1,644,000
HS 1210	6,552,326	42,067,056	4,804,440	27,682,000
HS 1211	16,171,990	78,890,752	10,803,547	69,888,000
HS1212.20	1,725,286	11,955,945	1,923,930	12,755,000
HS 1301	15,526,626	32,887,296	8,712,495	26,837,000
HS 1302	31,789,160	260,477,376	29,453,908	236,833,000
HS 1508	6,544,846	5,069,404	3,653,095	3,225,000
HS 1513	8,637,726	6,918,349	4,314,500	4,052,000
HS 1515	561,154,176	307,503,456	667,538,693	402,597,000
HS1516.20	95,793,008	87,347,120	112,330,376	105,065,000
HS 1521	1,960,113	6,016,181	2,138,335	6,113,000
HS 1804	18,879,406	50,426,852	15,094,688	46,187,000
HS2101.20	10,993,828	31,297,220	8,801,677	29,344,000
HS 3203	2,811,130	15,533,865	3,783,844	18,318,000
HS 3301	31,760,520	298,770,016	29,690,463	297,161,000

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Notes: 2002 export data for the following headings have had certain natural ingredients, those that are not relevant to the US cosmetics and/or dietary supplement ingredient trade, subtracted out; HS 0910 (bay leaf, curry, and spices mixes are not included in the 2002 data); HS 1211 (coca leaf and poppy straw are not included in the 2002 data); HS 1302 (opium and pyrethrum are not included in the 2002 data).

2.4 Consumption

2.4.1 Market size

The market size for natural ingredients that are used exclusively in the US natural cosmetics and dietary supplement industries is difficult to ascertain largely because many of the same ingredients are also widely used in other sectors, for example by manufacturers of functional- and/or health- foods, alcoholic- and non-alcoholic beverages, conventional- and homeopathic- drugs, pet products, and even tobacco products, among other sectors. Many, or most, natural ingredient suppliers in the US, however, service both cosmetics and dietary supplement consumer product manufacturers.

The US Department of Commerce, Bureau of the Census, International Trade Administration (ITA) provides some sector analysis data using the North American Industry Classification System (NAICS), which employs 6-digit codes to identify and analyze industry sectors in the US, Canada, and Mexico. According to ITA data, the US Medicinal and Botanical Manufacturing Sub-sector (NAICS 325411) employed about 21,600 workers in 2000, of which 11,400 were production workers.[105] This data is only partially useful for this report because it involves bulk natural and synthetic ingredients that are generally for use by pharmaceutical preparation manufacturers as opposed to only non-drug cosmetic and/or dietary supplement product manufacturers. NAICS 325411, as shown in the table below, includes not only bulk medicinal herbal products such as ginseng root extract but also some synthetic organic medicinal chemicals, as well as hormones, glands, organs, tissues and naturally occurring vitamins.

325411 MEDICINALS AND BOTANICALS	
3254111	SYNTHETIC ORGANIC MEDICINAL CHEMICALS, IN BULK
32541111	Synthetic organic antibiotics, including all uses (veterinary, food supplements, food preservation, etc.), except preparations
3254111111	Synthetic organic antibiotics, including all uses (veterinary, food supplements, food preservation, etc.), except preparations
32541112	Other synthetic organic medicinal chemicals, except antibiotics
3254111221	Other synthetic organic medicinal chemicals, except antibiotics
3254114	OTHER MEDICINAL CHEMICALS AND BOTANICAL PRODUCTS, IN BULK, NEC
32541141	Botanical alkaloid drugs, other botanical drugs, naturally occurring vitamins, drugs of animal origin, and artificial mixtures of two or more medical or botanical substances
3254114111	Botanical drugs, alkaloids, including opium and nicotine
3254114121	Other botanical drugs, including glycosides and ginseng extract
3254114131	Naturally occurring vitamin C
3254114141	Naturally occurring vitamin E.
3254114151	Medicinals and botanicals, other medicinal and botanical products, in bulk, nec, naturally occurring vitamins, other naturally occurring vitamins (from yeast, fish, liver, etc.)
3254114161	Medicinals and botanicals, other medicinal and botanical products, in bulk, nec, drugs of animal origin, including hormones, dried glands, organs, and tissues and extractions thereof
3254114171	Medicinals and botanicals, other medicinal and botanical products, in bulk, nec, artificial mixtures of two medicinal or botanical substances or more for therapeutic or prophylactic uses
32541142	Medicinals and botanicals, other medicinal and botanical products, in bulk, nec, other organic and inorganic medicinal chemicals, except diagnostics
3254114291	Medicinals and botanicals, other medicinal and botanical products, in bulk, nec, other organic and inorganic medicinal chemicals, except diagnostics

Source: U.S. Department of Commerce: Bureau of the Census; International Trade Administration (ITA).

Natural cosmetics and cosmeceuticals

Determining the trade value of natural cosmetics ingredients in the US is extremely complicated due, in part, to a lack of precise definitions and a lack of regulatory oversight.[106] Beauty care products are notoriously under-regulated in the US.[107] For example, some ingredients are traded as "natural" that are not natural by some definitions. Other ingredients traded as "cosmeceuticals" may, or may not, be natural in composition. There are even some cosmetic products labeled as "organic" that contain mostly synthetic components with only a negligible quantity of certified organic natural ingredients.[108]

Some European-made cosmetics in the US market display the "Certified Natural Cosmetic" seal, certified by the BDiH (Bundesverband deutscher Industrie- und Handelsunternehmen). Natural cosmetics with this seal are certified to contain natural raw materials such as plant oils, fats and waxes, herbal extracts and essential oils and aromatic materials from certified organic or wild harvested plants. They may not be tested on animals, contain animal by-products from vertebrates (e.g. mink oil), nor may they be sterilized by irradiation.[109]

Leading natural ingredient manufacturers like **Sabinsa Corporation** define their catalogue of "natural cosmeceutical" ingredients to include certain essential oils (coriander seed oil), fine chemicals (aleuritic acid isolated from lac resin), herbal extracts (green tea leaf extract and licorice root extract) and derivatives (neem oil liminoids), as well as freeze-dried coconut water solids.[110]

Depending on the definition applied, the size of the total US health and beauty category, at retail, ranges anywhere from US $25.2 to $52.9 billion, and is composed of three segments: mainstream health and beauty products, natural products, and cosmeceutical products.[111] According to a *Nutrition Business Journal* survey, the size of the natural personal care and cosmetics products market in the US, at retail, was US $3.8 billion in 2000, a 5.8% increase over 1999, accounting for 10% of total health and beauty care spending.[112] The number of product offerings in the natural category is also a growing part of the overall personal care segment, accounting for 7.6% in 2001, up from 6.3% in 2000.[113]

Additionally, cosmeceutical product sales, which may also include products with natural ingredients, are estimated to range between US $2.7 billion to $3 billion, representing about 6%–7% of the total health and beauty industry.[114] US demand for cosmeceutical products has been estimated to grow by 8% per year through 2007, when it is predicted to reach about US $5 billion.[115] The global market for natural personal care and cosmeceutical products is estimated to be over US $13 billion, with growth in the US and the EU the highest worldwide.[116]

There are an estimated 400 companies competing in the US cosmeceutical industry, of which about half are chemical suppliers (possibly also suppliers of some natural ingredients) and half are end-use product manufacturers.[117]

Dietary supplements

The dietary supplement industry is one of the fastest growing product areas that FDA regulates. The FDA has recently estimated the number of US companies that manufacture, hold, or repackage dietary supplement products as well as the number of natural ingredient suppliers to the industry. FDA estimates that there are a total of 1,566 companies, of which 1,228 are manufacturers of dietary supplement consumer products (78.4%), 114 are holders of dietary supplement products (7.3%), 26 are repackers or relabelers of dietary supplement products (1.7%), 92 establishments are not already classified (5.9%), and 106 are natural ingredient suppliers (6.7%). Most US dietary supplement companies are considered to be small or very small with total annual revenues less than US $20 million.[118]

Natural ingredients trade value

The International Research Institute (IRI) has estimated the farm-level value of herbs

produced in the North America to be more than US $1 billion, with the market growing at least 10 percent annually.[119] Cultivated herbs may be processed into various value-added forms for end-uses in cosmetics, dietary supplements, foods, drugs, or other types of products.

For the natural ingredients covered in this Market Brief, the US imported over $1.7 billion in 2002 (See Table 2.2) and exported over $1.3 billion (See Table 2.10). The entire quantity of these natural ingredients, however, cannot be attributed entirely to an end-use in cosmetic and/or dietary supplement products.

Natural ingredient suppliers for cosmetics and dietary supplements

Details on 22 of the leading extract manufacturers operating in the US are listed in Appendix II, of which 12 are US companies and 10 are foreign companies that operate sales, marketing and distribution facilities located in the US. Appendix II also provides details for nine US essential oil producers, 31 herb farms, and 47 leading natural ingredient wholesale distribution companies (many with some value-add processing capabilities). Please note that the Appendix II listing of companies is not exhaustive. There is also some crossover, for example, some of the farms listed are divisions or subsidiaries of parent companies listed under a separate heading.

Only a few of the leading US natural ingredient manufacturers are publicly traded and, therefore, their total annual revenues are published. For example, total revenues for **Pure World, Inc.** (NasdaqSC:PURW), a manufacturer and marketer of natural extract ingredients, for the most recent 12-month period were US $22.2 million. Total annual revenues for **Hauser, Inc.** (OTCBB:HAUS), another US manufacturer and marketer of natural ingredients, are over US $50 million, however, about 13% of Hauser's total revenues are related to technical services such as contract research and development rather than ingredient sales. Hauser has, however, recently filed a voluntary petition for reorganization under Chapter 11 of the US Bankruptcy Code.

The **A.M. Todd Group of Companies,** which is privately held, has been estimated to be a US $300 million supplier of natural ingredients, although this estimate includes sales from their flavor ingredients division (SunPure Ltd.), and sales from their vanilla bean division (Zink & Triest Company, Inc.), as well as sales from their botanical extract and essential oil division (A.M. Todd Company; formerly East Earth Herb, Inc. and Folexco, Inc.). In 1999, the merging of the former East Earth Herb and Folexco companies was estimated to be a new US $50 million company, now part of the A.M. Todd Group of Companies.

European natural ingredient manufacturers lead the global market and also have a strong presence in the US market. One of the world's leading manufacturers and marketers of natural ingredients, **Indena S.p.A.** of Milan, Italy, an estimated US $200 million supplier of natural ingredients for cosmetic, dietary supplement, health food, and pharmaceutical products, has sales, marketing, and distribution facilities at two US locations. One of the world's leading suppliers of pharmacopoeial-grade botanical raw materials and herbal extracts is the German corporation **MB-Holding** (estimated annual revenues of US $250 million). MB-Holding is the parent company for a group of nearly 30 companies operating worldwide including **Finzelberg GmbH & Co KG** (medicinal herbal extracts for dietary supplements and phytopharmaceuticals), **Martin Bauer GmbH & Co KG** (medicinal and aromatic herbs and teas), and **Plantextrakt GmbH & Co KG** (herbal extracts for foods and cosmetics). MB-Holding has sales, marketing, and distribution facilities for its various divisions in several US locations, supplying plant-based natural ingredients to the cosmetics, dietary supplement, food, and pharmaceutical industries. **Euromed S.A.** (and its US subsidiary Euromed USA, Inc.) is a wholly owned subsidiary of the German pharmaceutical company **Madaus Group** (estimated annual revenues of US $400 million),

manufacturing standardized plant extracts and natural active principles for the pharmaceutical, cosmetic, dietary supplement, and food industries.

2.4.2 Market segmentation

The US market for natural ingredients for cosmetics and dietary supplements can be divided in the following main segments:

A. Processing industry

1. Commercial herbal extraction houses (extraction, evaporation, juicing, distillation, fermentation, purification, drying, blending, granulation, grinding)
2. Commercial milling operations (cutting, sifting, powdering, blending, packing)
3. Essential oil distillers (associated with an herb farm or mobile distillation units)
4. Farms (cultivation, drying, milling, sieving, density adjustment, and in some cases on-site distillation, extraction and/or juicing of fresh plant material)
5. Nut and seed oil producers; oil seeds: flax, hemp, jojoba; ground-nuts (cold pressing, expeller pressing, CO2 super critical extraction, de-fatting, esterification, hydrogenation, refining, transisomerization)
6. Wholesale distributors with value-add capabilities (blending, milling, sieving, density adjustment, formulation, granulation, particle engineering, trituration, contract manufacturing)

B. Consumer product manufacturers

1. Natural cosmetic and cosmeceutical

a. Bath products
   i. Aromatherapy bath products
   ii. Bath milks and oils
   iii. Herbal baths (sacs, salts (with essential oils) or effervescent tablets)
   iv. Shower and bath gels
   v. Soaps

b. Beauty and personal care product manufacturers
   i. Decorative (eye and facial makeup, nail polishes, lipsticks, tattoos)
   ii. Deodorants
   iii. Oral care (chewing sticks with essential oil, dental floss with essential oil, mouthwashes, herbal tooth gel and toothpastes)
   iv. Skin care (skin conditioners, gels, lotions and creams, masks, massage oils, moisturizers, toners)
   v. Shaving products (shaving cream, aftershave lotion)
   vi. Suntan and sunscreen products

c. Hair care product manufacturers
   i. Hair coloring products
   ii. Hair growth products
   iii. Herbal shampoos, conditioners, oils, rinses
   iv. Styling gels

d. Perfume and fragrance product manufacturers

e. Wound healing, injury, pain relief drug cosmetic product manufacturers
   i. Herbal balms, distillates, gels, liniments, ointments, plasters, salves

2. Dietary supplement and nutraceutical

a. Herbal dietary supplements
   i. Essential fatty acid product marketers (borage oil, evening primrose oil, flax oil)
   ii. Essential oil (e.g. peppermint oil in coated capsules) marketers
   iii. Herbal extract marketers (dry or soft extracts in capsules or tablets)
   iv. Liquid extract manufacturers (fluidextracts, glycetracts, juices, syrups, tinctures)
   v. Medicinal and wellness herbal tea manufacturers
   vi. Powdered herb (in capsule or tablets) marketers

b. Manufacturers of amino acids, enzymes, organ tissues, glandulars, metabolites, proteins

c. Vitamin and mineral product manufacturers

2.4.3 Market characteristics

Natural cosmetics

North Americans spend $154 per year per capita on cosmetics.[120] According to *American Demographics* magazine, Americans are spending more than ever on personal care, an average of $563 per household in 2000.[121] Natural cosmetics account for an estimated 10% of the total market and cosmeceuticals account for an estimated 6–7%, however the boundaries between these two categories are presently unclear and there is likely to be some amount of overlap between them depending on the definitions used by different market analysts.

According to *Natural Business Journal*, the top-selling natural personal care products in US natural products retail outlets are skin care products, followed by hair care products, bath/toilet soap, oral hygiene, fragrances, cosmetics, deodorants and bath items, baby care items, shaving products, feminine hygiene and nail care products.[122]

The American population is aging, and the so-called "baby boomer" generation, those born between 1946 and 1964, now between the ages of 40 and 60, making up the largest share of the US population and accounting for one-half of all expenditures.[123] The aging US population is looking for natural cosmetic products that promise anti-aging benefits in particular. The cosmetic industry views "natural" and "organic" products as innovations that are driving the overall market. Baby boomers are also demanding products that meet their ecological and ethical concerns. For example, natural cosmetics that have growing appeal to the green consumer in the US are those that contain certified organic ingredients, that do not contain artificial colors or preservatives, that are not tested on animals, and those whereby some portion of the company's profits are donated to non-profit environmental organizations or are invested in a way that supports local communities in the ingredient-producing regions of developing countries.

Dietary supplements

According to analysis provided in the Food and Drug Administration (FDA), the US dietary supplement industry experienced rapid growth from 1994 to 2000, as shown in Table 2.11, which shows annual sales of three general categories of dietary supplements, a measure of the market size of the supplement industry. Annual increases in sales of herbals and botanicals were the greatest, averaging 18% per year, while annual increases in sales of supplements that were neither vitamins and minerals nor herbals and botanicals increased less, averaging 11% per year. The lowest annual sales increases were for vitamins and minerals, averaging 8% per year. For all dietary supplements combined, sales increased an average of 12% a year since 1994 (not shown on the table). Panel C of the Table shows that the estimated per capita consumption of the different categories of dietary supplements has increased steadily since 1994.[124] Since 2000, however, total sales of herbal dietary supplements have been flat.

Demographics of the main US audience for dietary supplement products are the same as those discussed for natural cosmetics and cosmeceuticals. It is mainly the relatively affluent, well-educated, baby-boomer generation, between the ages of 40 and 60.

Demographics of the organic consumer sub-sector show that 54% are from age 55+, skewing towards age 65+. 47% are from households with annual income of US $50,000+, and 30% from $70,000+.[125] Health-conscious younger generations, however, are also beginning to co-drive the organic market. About 60% of the organic consumers are female.[126]

TABLE 2.11 — GROWTH IN MARKET SIZE AND PER CAPITA CONSUMPTION OF DIETARY SUPPLEMENTS, 1994-2000

	1994	1995	1996	1997	1998	1999	2000
Panel A—Nominal Market (Millions of Current Dollars)							
Vitamins	3,960	4,220	4,780	5,190	5,550	5,940	6,360
Growth rate (percent)		6.57	13.27	8.58	6.94	7.03	7.07
Minerals	700	800	900	1,070	1,160	1,250	1,350
Growth rate (percent)		14.0	13.0	19.0	8.0	8.0	8.0
Herbals and Botanicals	2,070	2,530	2,990	3,530	4,170	4,840	5,520
Growth rate (percent)		22.22	18.18	18.06	18.13	16.07	14.05
Supplements other than vitamins/minerals and botanicals	2,070	2,290	2,620	2,890	3,180	3,490	3,840
Growth rate (percent)		10.63	14.41	10.31	10.03	9.75	10.03
Total	8,080	9,840	11,290	12,680	14,060	15,520	17,070
Growth rate (percent)		12.0	15.0	12.0	11.0	10.0	10.0
Panel B—Prices							
Consumer price index-units (percent)	148.5	152.5	157.0	160.5	163.2	166.7	
Inflation rate (percent)	2.56	2.76	2.957	2.23	1.68	2.14	2.39
Vitamins and minerals							
Average nominal price (IRI)	$6.20	$6.50	$6.87	$7.34	$7.54	$7.78	$8.05
Nominal price increase (percent)	2.69	4.84	5.69	6.84	2.72	3.18	3.43
Real price increase (percent)	5.25	2.08	2.74	4.61	1.04	1.04	1.04
Supplements other than vitamins and minerals:							
Average nominal price	$6.20	$6.50	$6.87	$7.34	$7.70	$8.11	$8.56
Nominal price increase (percent)	5.80	4.84	5.69	6.84	4.85	5.31	5.56
Real price increase (percent)	3.24	2.08	2.74	4.61	3.17	3.17	3.17
Panel C--Per Capita Consumption (Number of Units Sold Per U.S. Resident)							
Vitamin/mineral sales	2.45	2.47	2.62	2.64	2.72	2.80	2.87
Growth (percent)		0.69	6.19	0.66	3.12	2.74	2.55
Herbals sales	1.28	1.48	1.64	1.80	2.00	2.19	2.34
Growth (percent)		15.48	10.79	9.45	11.60	9.17	7.03
Supplements other than vitamins and minerals and herbals (sales)	1.28	1.34	1.44	1.47	1.53	1.58	1.63
Growth (percent)		4.53	7.26	2.26	3.95	3.23	3.25

SOURCE: DEPARTMENT OF HEALTH AND HUMAN SERVICES, Food and Drug Administration. Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Dietary Ingredients and Dietary Supplements. Proposed Rules. Federal Register: March 13, 2003;Volume 68, Number 49.

2.4.4 Apparent consumption of selected natural ingredients

Because US domestic production data is not available for the vast majority of natural ingredients used in cosmetics and dietary supplements, the following tables cover selected high-demand natural ingredients for which some amount of domestic production, import and export data exists. It must also be kept in mind that many of the same ingredients are also used in beverages, foods and drugs.

2.4.4.1 Cayenne (Capsicum) fruit

Apparent Consumption of Cayenne (Capsicum) Fruit in the US (in Kilograms)

	2002
Production	**131,951,370 kg**
Imports	**12,405,921 kg**
Exports	**6,295,808 kg**
Apparent consumption	**138,061,483 kg**

Sources: **Production:** USDA NASS Agricultural Statistics Data Base; **Imports and Exports:** Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

2.4.4.2 Flaxseed (Linseed) oil

Apparent Consumption of Flaxseed (Linseed) Oil in the US (in Kilograms)

	2000	2001	2002
Production	**106,141,700 kg**	**106,141,700 kg**	
Imports (crude & refined)	**6,102,100 kg**	**4,478,100 kg**	**5,807,709 kg**
Exports (crude & refined)	**33,389,500 kg**	**28,574,900 kg**	**44,444,846 kg**
Apparent consumption	**78,854,400 kg**	**82,044,900 kg**	

Sources: **Production:** Economic Research Service USDA, Field Crops Branch; **Imports and Exports:** Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

2.4.4.3 Ginger rhizome

Apparent Consumption of Ginger Rhizome in the US (in Kilograms)

	2002
Production	**6,531,797 kg**
Imports	**21,114,952 kg**
Exports	**655,795 kg**
Apparent consumption	**26,990,954 kg**

Sources: **Production:** Hawaii Agricultural Statistics Service; **Imports and Exports:** Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

NOTE: The apparent consumption of ginger data must be viewed cautiously because the US production is based on fresh weight only. Fresh ginger contains up to 90% moisture, and dried ginger should not contain more than 10% moisture. It is not clear what amount of the imports and/or exports are fresh, partially dried, or fully dried, so a calculation in order to account for moisture content would be necessary.

2.4.4.4 Ginseng root

Apparent Consumption of Cultivated Ginseng Root (American & Asian) in the US (in Kilograms)

	2002
Production (entirely American ginseng)	**451,590 kg**
Imports (mainly Asian ginseng)	**76,800 kg**
Exports (mainly American ginseng)	**320,609 kg**
Apparent consumption (both ginsengs)	**207,781 kg**

Sources: **Production:** Based on 2001 production data from Wisconsin Department of Agriculture, Trade and Consumer Protection, Division of Agricultural Resource Management; **Imports and Exports:** Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

2.4.4.5 Hop strobile

Apparent Consumption of Hop Strobile in the US (in Kilograms)

	2002
Production	**25,594,438 kg**
Imports	**3,334,883 kg**
Exports	**4,804,440 kg**
Apparent consumption	**24,124,881 kg**

Sources: **Production:** USDA NASS Agricultural Statistics Data Base; **Imports and Exports:** Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

2.4.4.6 Jojoba oil

Apparent Consumption of Jojoba Oil in the US (in Kilograms)

	1998	1999	2000	2001	2002
Production	**691,735 kg**	**517,100 kg**	**408,237 kg**		
Imports	**501,900 kg**	**274,500 kg**	**343,500 kg**	**288,000 kg**	**288,017 kg**
Exports	**377,200 kg**	**391,200 kg**	**354,600 kg**	**347,700 kg**	**193,754 kg**
Apparent consumption	**816,435 kg**	**400,400 kg**	**397,137 kg**		

Sources: **Production:** Arizona Agricultural Statistics Service; **Imports and Exports:** Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

NOTE: A very small amount of jojoba is also produced in California, however statistical data is only available from Arizona State, which accounts for most US production.

2.4.4.7 Licorice root

Apparent Consumption of Licorice Root in the US
(in Kilograms)

	2002
Production	**0 kg**
Imports	**12,115,516 kg**
Exports	**308,913 kg**
Apparent consumption	**11,806,603 kg**

Sources: **Production:** N/A; **Imports and Exports:** Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

2.4.4.8 Maté leaf

Apparent Consumption of Maté Leaf in the US
(in Kilograms)

	2002
Production	**0 kg**
Imports	**1,050,604 kg**
Exports	**31,781 kg**
Apparent consumption	**1,018,823 kg**

Sources: **Production:** N/A; **Imports and Exports:** Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

2.4.4.9 Peppermint leaf oil

Apparent Consumption of Peppermint Leaf Oil in the US
(in Kilograms)

	2002
Production	**3,092,624 kg**
Imports	**526,926 kg**
Exports	**2,565,400 kg**
Apparent consumption	**1,054,150 kg**

Sources: **Production:** USDA NASS Agricultural Statistics Data Base; **Imports and Exports:** Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

2.4.4.10 Psyllium husk/seed

Apparent Consumption of Psyllium Husk/Seed in the US
(in Kilograms)

	2002
Production	**0 kg**
Imports	**11,498,013 kg**
Exports	**0 kg**
Apparent consumption	**11,498,013 kg**

Sources: **Production:** N/A; **Imports and Exports:** Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

3 MARKET ACCESS

3.1 Tariffs

The USITC (Office of Tariff Affairs and Trade Agreements) is responsible for publishing the *Harmonized Tariff Schedule of the United States Annotated* (HTSA). The HTSA provides the applicable tariff rates and statistical categories, based on the international *Harmonized System*, for all natural ingredients imported into the US. The US Customs Service is responsible for administering the tariff and for processing import entries.

For natural ingredients imported into the US, the most-favored-nation (MFN) rates of duty are as follows:

HS 0902	**Tea leaf** (non-flavored only) enters the US free of any import duties.
HS 0903	**Maté leaf** enters the US free of any import duties
HS 09042020	**Cayenne fruit** (Capsicum) enters the US with a US$ 0.03 / kg rate of duty, with the following special program exceptions: Generalized System of Preferences (GSP), NAFTA for Canada, Caribbean Basin Initiative (CBI), Israel Special Rate, Andean Trade Preference Act (ATPA), Jordan Special Rate, and NAFTA for Mexico
HS 0909	**Seeds of anise, badian, coriander, cumin, caraway and fennel**, as well as **juniper berries** enter the US free of any import duties
HS 091010	**Ginger rhizome** (not ground) enters the US duty free. Ground ginger rhizome, however, has a US$ 0.01/kg rate of duty, with the following special program exceptions: GSP, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico
HS 091020	**Saffron stigma** enters the US duty free
HS 091030	**Turmeric (Curcuma) rhizome** enters the US duty free
HS 091040	**Thyme herb** (crude or not manufactured) enters the US duty free
HS 1210	**Hop strobile** enters the US with a US$ 0.132 / kg rate of duty, with the following special program exceptions: GSP, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico
HS 1211	Medicinal herbs used in perfumery and pharmacy (e.g. **ginseng root, licorice root, peppermint leaf, psyllium seed husks, sage leaf, senna leaf/pod,** etc...) enter the US duty free with the exception of processed mint leaves (e.g. tea-bag-cut) (HS 1211.90.4020 & 1211.90.4040), which have a 4.8% rate of duty, with the following special program exceptions: GSP, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico
HS 121220	**Seaweeds and other algae** enter the US duty free
HS 1301	**Seed lac, natural gums (e.g. gum arabic), resins, gum-resins and oleoresins** (for example, balsams) enter the US duty free with the exception of turpentine gum (HS 1301.90.4000), which has a 1.3% rate of duty, with the following special program exceptions: GSP, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico
HS 1302	Vegetable saps and **extracts (e.g. extracts of aloe, ginseng, hops, and licorice**), pectic substances, pectinates and pectates, **agar-agar** and other mucilages and thickeners (e.g. **guar seed**) enter the US duty free with the following exceptions: **Licorice root extract** (HS 1302.12) has a 3.8% rate of duty, with the following special program exceptions: GSP, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico **Hop strobile extract** (HS 1302.13) has a US$ 0.89 / kg rate of duty, with the following special program exceptions: Imports from least-developed beneficiary developing countries eligible for GSP under this subheading, NAFTA for Canada,

Africa Growth and Opportunity Act (AGOA), CBI, Israel Special Rate, ATPA, and NAFTA for Mexico

Ginseng root extract (HS 1302.19.4020) has a 1% rate of duty, with the following special program exceptions: GSP, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Carrageenan (HS 1302.39.0010) and other vegetable mucilages, NESOI (HS 1302.39.0090) have a 3.2% rate of duty, with the following special program exceptions: Imports from least-developed beneficiary developing countries eligible for GSP under this subheading, NAFTA for Canada, AGOA, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

HS 1508 **Ground-nut oil**, crude (HS 1508.10) and refined (HS 1508.90) both have a US$ 0.075 / kg rate of duty, with the following special program exceptions: Imports from least-developed beneficiary developing countries eligible for GSP under this subheading, NAFTA for Canada, AGOA, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

HS 1513 **Coconut (copra), palm kernel or babassu oil**, and fractions thereof enter the US duty free

HS 1515 **Flaxseed (Linseed) oil**, crude (HS 1515.11) and refined (HS 1515.19) both have a US$ 0.063 / kg rate of duty, with the following special program exceptions: Imports from least-developed beneficiary developing countries eligible for GSP under this subheading, NAFTA for Canada, AGOA, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Corn (Maize) oil, crude (HS 1515.21.000) and refined (HS 1515.29.0020 & 1515.29.0040) both have a 3.4% rate of duty, with the following special program exceptions: Imports from least-developed beneficiary developing countries eligible for GSP under this subheading, NAFTA for Canada, AGOA, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Castor oil (HS 1515.30) enters the US duty free

Sesame oil (HS 1515.50) has a US$ 0.68 / kg rate of duty, with the following special program exceptions: GSP, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Nut oils, NESOI (HS 1515.90.2000) enter the US duty free

Jojoba oil (HS 1515.90.6000) has a 2.3% rate of duty, with the following special program exceptions: GSP, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Hemp oil (HS 1515.90.8010) and other fixed vegetable fats and oils (HS 1515.90.8090) have a 3.2% rate of duty, with the following special program exceptions: GSP, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

HS 1516 **Canola (rapeseed) oil** (HS 1516.20.1000) has a 7.7% rate of duty, with the following special program exceptions: Imports from least-developed beneficiary developing countries eligible for GSP under this subheading, NAFTA for Canada, AGOA, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Other vegetable fats and oils, NESOI (HS 1516.20.9000) have a US$ 0.088 / kg rate of duty, with the following special program exceptions: Imports from least-developed beneficiary developing countries eligible for GSP under this subheading, NAFTA for Canada, AGOA, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

HS 1521 **Vegetable waxes (other than triglycerides), beeswax, other insect waxes and spermaceti** enter the US duty free, with the following one exception:

Bleached beeswax (HS 1521.90.2000) has a 4.8% rate of duty, with the following special program exceptions: GSP, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

HS 1804 **Cocoa butter, fat and oil** (HS 1804.00) enters the US duty free

HS 2101 **Extracts, essences and concentrates, of tea leaf or maté leaf** (HS 2101.20.2000) enter the US duty free

HS 3203 **Coloring matter of vegetable (e.g. annato) or animal (e.g. cochineal) origin** (HS 3203.00.1000) enters the US duty free

Other colorants, NESOI (HS 3203.00.8000) have a 3.1% rate of duty, with the following special program exceptions: Imports from least-developed beneficiary developing countries eligible for GSP under this subheading, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, Agreement on Trade in Pharmaceutical Products, and NAFTA for Mexico

HS 3301 **Essential oils, resinoids and extracted oleoresins** enter the US duty free with the following specific exceptions:

Essential oil of orange (HS 3301.12) has a 2.7% rate of duty, with the following special program exceptions: Certain countries excluded from GSP eligibility for this HTS subheading, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Essential oil of lemon (HS 3301.13) has a 3.8% rate of duty, with the following special program exceptions: Imports from least-developed beneficiary developing countries eligible for GSP under this subheading, NAFTA for Canada, AGOA, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Essential oil of grapefruit (HS 3301.19.1000) has a 2.7% rate of duty, with the following special program exceptions: Certain countries excluded from GSP eligibility for this HTS subheading, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Essential oil of peppermint leaf (HS 3301.24) has a 4.2% rate of duty, with the following special program exceptions: Certain countries excluded from GSP eligibility for this HTS subheading, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Essential oil of eucalyptus leaf (HS 3301.29.1000) has a 1.8% rate of duty, with the following special program exceptions: Certain countries excluded from GSP eligibility for this HTS subheading, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Essential oil of orris (HS 3301.29.2000) has a 1.1% rate of duty, with the following special program exceptions: Certain countries excluded from GSP eligibility for this HTS subheading, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

Extracted oleoresins, including **Capsicum oleoresin** (HS 3301.90.10), have a 3.8% rate of duty, with the following special program exceptions: Certain countries excluded from GSP eligibility for this HTS subheading, NAFTA for Canada, CBI, Israel Special Rate, ATPA, Jordan Special Rate, and NAFTA for Mexico

3.2 Sanitary and safety regulations

3.2.1 Good Agricultural and Collection Practices (GACPs)

As a prerequisite for the production of pharmacopoeial-quality natural ingredients that are made from medicinal herbs & extracts, Good Agricultural and Collection Practice's (GACPs) specific to medicinal plants are advisable.

The Botanical Raw Materials Committee of the American Herbal Products Association (AHPA) is presently in the process of developing a "Good Agricultural Practices (GAPs) for Botanical Raw Materials" document, to eventually be used by member companies as a guideline for their own farming operations and/or for their suppliers who cultivate medicinal plants. The United States Pharmacopeia's Advisory Panel on Botanicals has also recently formed a subgroup, the GAP Working Group, with a goal to develop a USP GAP document that, in combination with the official monographs published in the USP-NF, will facilitate quality assurance for the production of herbal dietary supplement products. Additionally, the World Health Organization (WHO) expects to complete its final draft of its "WHO Guideline on Good Agricultural and Field Collection (GACP) for Medicinal Plants" document by the end of 2003, which may become an international standard for producers of botanical raw materials.

In the meantime, until the AHPA, USP, and/or WHO guidelines are published, it is recommended that medicinal plant farmers and/or wild collectors obtain a copy of the recently published guidelines published by The European Agency for the Evaluation of Medicinal Products (EMEA) entitled "Points to Consider on Good Agricultural and Collection Practice for Starting Materials of Herbal Origin"[127] and consider incorporating the EMEA guidelines into their farming operation's written Standard Operating Procedures.

Following GAPs are especially relevant for minimizing the microbiological load of conventionally grown as well as organically grown medicinal plants because there really are no acceptable decontamination methods for medicinal plants. There are practically no methods which reduce microbial counts without, at the same time, adversely affecting a medicinal herb's active constituents. Pasteurization and autoclaving are not generally suitable; dry heat can only be used for a few select herbs; ethylene oxide (ETO) forms toxic reaction products such as ethylene chlorohydrin and ethylene glycol (and ETO has been banned in the EU since 1990); ionizing irradiation (banned in Germany) also causes measurable changes in the chemistry composition of the botanical.[128] Additionally, the use of ozone also causes significant undesirable changes in composition and quality, particularly in the case of volatile oil herbs like chamomile flower head.

According to the European Pharmacopoeia general monograph for Herbal Drugs "If a decontaminating treatment has been used, it is necessary to demonstrate that the constituents of the plant are not affected and that no harmful residues remain. The use of ethylene oxide (ETO) is prohibited for the decontamination of herbal drugs."[129] Instead, the development and implementation of GAPs for the hygienic production and handling of botanical raw materials should be implemented in order to minimize the microbiological load during growing, harvesting, drying, packing and storage stages.[130,131]

3.2.2 Good Manufacturing Practices (GMPs) for Cosmetics and Dietary Supplements

Cosmetic GMPs

There are no regulations setting forth specific GMP requirements for non-drug cosmetics. In contrast, the law requires strict adherence to GMP requirements for cosmetics that are classified as drugs, and there are regulations specifying minimum current GMP requirements for drugs [Title 21 of the Code of Federal Regulations (CFR), parts 210 and 211]. Failure to follow GMP requirements causes a cosmetic drug to be adulterated under the FD&C Act, sec. 501(a)(2)(B). Title 21 of the Code of Federal Regulations can be viewed at: http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200221

FDA's Cosmetic Good Manufacturing Practice Guidelines can be viewed at: http://www.cfsan.fda.gov/~dms/cos-gmp.html

Dietary Supplement GMPs

On March 13, 2003, the FDA published its proposed rule "Current Good Manufacturing Practice (CGMP) in Manufacturing, Packing, or Holding Dietary Ingredients and Dietary Supplements" in the Federal Register; Available at: http://www.cfsan.fda.gov/~lrd/fr030313.html

The comment period for these proposed rules ends on August 11, 2003. For more information on how to submit comments, visit: http://www.cfsan.fda.gov/~lrd/fr030519.html

The proposed rule would establish the minimum CGMPs necessary to ensure that, if a company engages in activities related to manufacturing, packaging, or holding natural ingredients or finished dietary supplement products, it will be done in a manner that will not adulterate and misbrand the natural ingredients or finished dietary supplements. The provisions would require manufacturers to evaluate the identity, purity, quality, strength, and composition of their natural ingredients and finished dietary supplement products.

The CGMPs are designed to ensure that every dietary supplement on the market has the safety, identity, purity, quality, and strength it purports in the label to possess. The CGMPs include requirements for ingredient identity testing and other testing, including testing for adulteration with toxic substances. Under this proposed rule, a manufacturer must establish written specifications for its natural ingredients, botanical raw materials and extracts in particular. The specifications must allow for confirming the identity, purity, quality, strength, and composition of components, natural ingredients, or dietary supplements. The manufacturer will be also required to confirm that their written specifications are met before the natural ingredient can be used in a product and/or before the finished product can be released for sale.

The proposed CGMPs require manufacturers to test natural ingredients, particularly imported botanicals, for heavy metals, pesticides, and industrial contaminants. The proposed rule would also require that foreign firms, that want to export natural ingredients and/or dietary supplements to the US, also operate in compliance with FDA's dietary supplement GMPs. This would apply to foreign firms that manufacture, package, or hold natural ingredients or dietary supplements that are imported or offered for import into the US, unless imported for further processing and re-export under certain conditions.[132]

3.2.3 Registration of Foreign Facilities Under the Bioterrorism Act

The US Congress responded to the events of 11 September 2001 by passing the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (the Bioterrorism Act), which President Bush signed into law 12 June 2002.

On 19 March 2003, the US FDA released guidance documents addressing food and cosmetic security preventive measures, including the registration of foreign suppliers of ingredients with the FDA. The FDA designed these guidance documents as a way to help US product manufacturers minimize the risk of tampering or other malicious, criminal or terrorist actions. In the US, natural ingredients, including medicinal herbs and extracts, and/or oral use natural products made from natural ingredients are, for the most part, regulated as "dietary supplements," a sub-set of food regulations rather than drug regulations, and external use natural products are regulated as non-drug cosmetics or cosmetic drugs. Therefore, natural ingredients used in both cosmetics and/or dietary supplements are covered by the Bioterrorism Act and these new FDA guidelines.

The rule also requires importers to provide "prior notice" of imports to FDA and the Bureau of Customs and Border Protection that includes:

- Identification of the submitter, including name and firm
- Entry type and US Customs System (ACS) entry number, or other US Customs identification number for the import
- Identification of the articles, including complete FDA product code, the common or usual name or market name, the quantities, and the lot or code numbers
- Identification of the manufacturer
- Identification of the grower
- Country of origin
- Identification of the shipper
- Anticipated date, time and location of arrival
- US Customs entry process information
- Identification of the importer, owner, and consignee
- Identification of the carrier

In March 2003, the American Herbal Products Association (AHPA) offered a workshop for its members entitled "Workshop on the Impact of the Implementation of the Bioterorrism Act on Dietary Supplement Businesses." AHPA's Herbal Importation Working Group also met to discuss emerging issues confronting importers of herbal materials, specifically related to new US Customs rules and the Bioterrorism Act. For more information on the activities of AHPA, visit: http://www.ahpa.org/

Three relevant "Guidance for Industry" documents, concerning importers and exporters of natural ingredients, are available from the FDA to down at the following Internet addresses:

Importers and Filers: Food Security Preventive Measures Guidance
Available to download at:
http://www.cfsan.fda.gov/~dms/secguid7.html

Cosmetics Processors and Transporters: Cosmetics Security Preventive Measures Guidance
Available to download at:
http://www.cfsan.fda.gov/~dms/secguid4.html

Food Producers, Processors, and Transporters: Food Security Preventive Measures Guidance
Available to download at:
http://www.cfsan.fda.gov/~dms/secguid6.html

Additionally, other relevant information concerning the Agricultural Bioterrorism Protection Act of 2002 can be obtained at the Agricultural Bioterrorism web-page of the Animal and Plant Health Inspection Service (APHIS) of the USDA:
http://www.aphis.usda.gov/ppq/permits/agr_bioterrorism/
APHIS also has a "Trade Support Team" which functions as the central office for tracking pending trade issues and initiatives, as well as working to ensure that APHIS' concern for protecting US agriculture's biosecurity is considered by other US government agencies as they develop and implement broader trade policies.

3.2.4 FDA Color Certification Program

FDA separates color additives into two categories. These are colors that the agency certifies (derived primarily from petroleum and known as coal-tar dyes) and colors that are exempted from certification (obtained largely from mineral, plant, or animal sources). Only approved substances may be used to color foods, drugs, cosmetics, and medical devices.

FDA requires domestic and foreign manufacturers of certain colors to submit samples from each batch of color produced. FDA scientists test each sample of these colors to confirm that each batch of the color is within established specifications. These certified colors are listed on labels as FD&C, D&C or external D&C. Using the uncertified versions of color additives that require certification is illegal in foods, drugs, cosmetics, and medical devices.

The color certification program is self-supporting because the law requires manufacturers to pay FDA a user fee for each pound of color the agency certifies. In Fiscal Year 2000 FDA certified more than 13 million pounds of color additives.[133]

3.2.5 Phytosanitary Certificates

A phytosanitary certificate documents the origin of a shipment and confirms inspection in the country of origin by a member of that country's national plant protection organization. This helps ensure that the shipment is free of injurious plant pests and diseases.

The certifying country usually charges a fee for providing these certificates. Phytosanitary certificates are governed under the International Plant Protection Convention, a multilateral treaty acknowledged by the World Trade Organization as the source for international standards for phytosanitary measures affecting trade. Phytosanitary certificates are recognized as an internationally accepted form of pest risk mitigation.

As of 22 January 2002, he United States Department of Agriculture (USDA) began consistently and routinely enforcing an existing requirement that shipments must be accompanied by a phytosanitary certificate of inspection, or similar documentation approved by USDA. All plants, roots, bulbs, seeds, and other plant products must be accompanied by a phytosanitary certificate issued by the plant health officials where the product originated in order to be considered for entry into the United States.[134]

3.2.6 USDA National Organic Program Import Requirements for Agricultural Products

The new USDA National Organic Standards require all agricultural products (including botanical raw materials & extracts) sold, labeled or represented as organic in the US to be certified by a USDA accredited certifying agent. However, in lieu of organic certification by a USDA accredited certifying agent, imported organic agricultural products (including medicinal herbs, extracts and essential oils) may be sold in the US if they have been certified and recognized through:

(1) a USDA recognition of conformity assessment (of independent certifying agents that are accredited by foreign governments) or
(2) an equivalency determination (organic certification programs of foreign governments).

USDA is currently working with several foreign governments to recognize their ability to assess and accredit certifying agents as meeting the requirements of the USDA National Organic Program. With regard to equivalency determination, USDA is currently working with India, Japan, Australia, and the EU to determine whether their national organic certification programs are equivalent to USDA National Organic Program. [135]

For details on USDA National Organic Program Trade Issues including Export Arrangements and Recognition Agreements, Export Certificate Procedures and Accompanying Documentation, Import Authorizations, and Imported Organic Agricultural Products, visit:
http://www.ams.usda.gov/nop/NOP/Trade.html

3.3 Quality requirements

Quality of natural ingredients is judged by the Quality Control (QC) Unit of each product manufacturing company based on a set of written specifications. According to GMP regulations, the QC Unit of a company may not release a natural ingredient for production in a batch until the ingredient has been tested and has been found to be in conformance with its written specifications. Some cosmetics and dietary supplement companies, particularly those whose products are regulated as drugs in other countries, have developed internal ingredient specifications that are based on pharmacopoeial standards monographs. For an ingredient to be labeled as pharmacopoeial-grade (e.g. Senna USP), the ingredient must be assayed and documented to be in conformance with all of the qualitative and quantitative standards that appear in the monograph.

For many high-demand natural ingredients such as botanical raw materials, extracts and essential oils, official pharmacopoeial standards are published in either the United States Pharmacopeia (USP) 26th Revision 2003, the United States National Formulary (USNF) 21st Edition 2003, and/or in the European Pharmacopoeia 4th Edition 2002-2003.

Official monographs published in the USP designate that the article has an FDA-approved or USP-accepted use.[136] USP and USNF botanical monographs are FDA-enforceable and include descriptions, requirements, tests, analytical procedures, and acceptance criteria. USP is recognized in the Dietary Supplement Health and Education Act (DSHEA) amendments to the Federal Food, Drug and Cosmetic Act as the nation's official compendia for dietary supplement standards.

For some natural ingredients that do not have official standards, other authoritative monographs are also utilized by industry for quality control standards including those of the American Herbal Pharmacopoeia and the British Herbal Pharmacopoeia, respectively.

These standards can provide valuable guidance to producers that may facilitate increased trade if the natural ingredients are documented to be in compliance, especially through independent laboratory certificates of analysis. A certificate of analysis document for each lot number of the natural ingredient should state which specific set of pharmacopoeial standards were used for testing (e.g. USP-NF or PhEur) and report the results of all tests, thereby showing that the ingredient conforms with the monograph, in which case the natural ingredient can be labeled and traded as "pharmacopoeial-grade" (e.g. Chamomile NF), and command a premium over lower commercial grades. The certificate of analysis must also be signed and dated by a qualified person of the QC Unit, or by the responsible chemist at the independent testing laboratory.

3.3.1 United States National Formulary (USNF)

Natural Ingredients with Official Monographs in the USNF:

American Ginseng Root
Powdered American Ginseng Extract
Anise Fruit Oil
Asian Ginseng Root
Powdered Asian Ginseng Extract
Caraway Fruit
Caraway Fruit Oil
Cardamom Seed
Cardamom Seed Oil
Compound Cardamom Tincture
Chamomile Flowerhead
Chocolate Powder
Clove Flower Oil
Cranberry Liquid
Echinacea Angustifolia Rhizome & Root
Powdered Echinacea Angustifolia Extract
Echinacea Pallida Rhizome & Root
Powdered Echinacea Pallida Extract
Echinacea Purpurea Rhizome & Root
Powdered Echinacea Purpurea Extract
Eleuthero Rhizome & Root
Powdered Eleuthero Extract
Fennel Fruit Oil
Feverfew Leaf
Garlic Bulb
Garlic Fluidextract
Powdered Garlic Extract
Ginger Rhizome
Ginger Tincture
Ginkgo Leaf
Goldenseal Root & Rhizome
Powdered Goldenseal Extract
Hawthorn Leaf with Flower
Horse Chestnut Seed
Powdered Horse Chestnut Extract
Juniper Tar
Lemon Peel Oil
Licorice Root, Rhizome & Stolon
Powdered Licorice Extract
Licorice Fluidextract
Milk Thistle Fruit
Powdered Milk Thistle Extract
Orange Peel Oil
Orange Peel Tincture
Orange Syrup
Peppermint Leaf & Flowering Top
Peppermint Leaf Oil
Peppermint Spirit
Peppermint Water
Red Clover Inflorescence
Powdered Red Clover Extract
Rose Flower Oil
Rose Water Ointment
Stronger Rose Water
St. John's Wort Flowering Tops
Powdered St. John's Wort Extract
Saw Palmetto Fruit
Saw Palmetto Extract
Valerian Rhizome, Root & Stolon
Powdered Valerian Extract
Vanilla Fruit
Vanilla Tincture

3.3.2 United States Pharmacopeia (USP)

Natural Ingredients with Official Monographs in the USP:

Aloe	dried latex of the leaves of *Aloe barbadensis* Miller or of *Aloe ferox* Miller and hybrids of this species with *Aloe africana* Miller and *Aloe spicata*
Belladonna leaf	dried leaf and flowering or fruiting top of *Atropa belladonna* Linné
Cascara Sagrada	dried bark of *Rhamnus purshiana* De Candolle
Digitalis	dried leaf of *Digitalis purpurea* Linné
Elm	dried inner bark of *Ulmus rubra* Muhlenberg
Ipecac	dried rhizome and roots of *Cephaëlis acuminata* or of Cephaëlis *ipecacuanha*
Myrrh	oleo-gum-resin from stems and branches of *Commiphora molmol* Engler and other related species of *Commiphora* other than *Commiphora mukul*
Plantago seed	cleaned, dried, ripe seed of *Plantago psyllium* Linné, or of *Plantago indica* Linné, or of *Plantago ovata* Forskal
Psyllium husk	clean, dried seed coat separated by winnowing and thrashing from the seeds of *Plantago ovata* Forskal, or from *Plantago psyllium* Linné, or from *Plantago indica* Linné
Rauwolfia	dried root of *Rauwolfia sepentina* (Linné) Bentham ex Kurz
Senna	dried leaflet of *Cassia acutifolia* Delile or of *Cassia angustifolia* Vahl
Tolu Balsam	balsam from *Myroxylon balsamum* (Linné) Harms

4 PRICES

Most of the thousands of natural ingredients that are used in cosmetic and/or dietary supplement products in the US are not commodities, with some exceptions (e.g. flaxseed oil), and therefore CIF or wholesale pricing information is not readily or publicly available. Most producers do not publish their price schedules, with certain exceptions, and most prefer to prepare price quotations on a case-by-case basis in response to serious inquiries.

Quotes may be dependent on a number of factors including the desired grade and quality, any unique specifications (e.g. a stock item that may require additional processing steps in order to meet a customer's unique particle size or density requirement), the single-order quantity, the total (annual) contract quantity, the total value of business conducted with the customer over a period of time, etc., as well as other conditions such as whether the total shipment can be sent directly to the customer's warehouse or whether it must be stored at a consolidation warehouse thus allowing the customer to take draws from the contract on a just-in-time basis or according to a predetermined future delivery schedule.

The Internet is not a reliable source for obtaining commercial price ideas for natural ingredients, with some rare exceptions. Internet marketers often publish only consumer and retail pricing schedules, for example, for less than 1 kg quantities, which is not useful information for the product manufacturer buyer. Some of the same suppliers that provide low quantity pricing on the Internet, however, may also offer commercial quantities, with individualized price quotes prepared upon request from serious buyers.

The **Market News Service for Medicinal Plants and Extracts** is a quarterly publication available from the International Trade Centre (ITC) (See Appendix V: Trade Press), that provides indicative ton pricing of selected high-demand medicinal herbs and extracts from several major world markets including North America, Western Europe, Eastern Europe, Northern Africa, China and India.

Many natural ingredients that are used in cosmetics and/or dietary supplements are also classified, in some cases, as "spices" (e.g. cayenne fruit or ginger rhizome), and therefore indicative ton pricing for such natural ingredients may also be obtained from the ITC's **Market News Service Spices World Report**, a weekly publication that includes quotes for a range of herbs in selected markets in Asia, Europe, the Middle East and the US.

Prices listed in the aforementioned ITC publications, however, can only be considered indicative.

Members of the **Herb Growing & Marketing Network** can list crops that they have available on the **Herb Crop Shop** message board, providing date of availability, price, quantity, etc. Prospective buyers can also list what they're looking for; Available at: http://www.herbworld.com/cropshop/disc1_welc.htm

5 DISTRIBUTION CHANNELS

The cosmetic and/or dietary supplement product manufacturer's buyer, in most cases, purchases natural ingredients from a range of different supplier types. For example, botanical raw materials, fresh or dried, in whole or cut forms, may be purchased directly from herb farms or from companies or individuals specializing in wildcrafting. Essential oils may be purchased directly from distillers, and extracts and oleoresins from commercial extraction houses, and so on. Please refer to Appendix II for a list of US importers and distributors of natural ingredients. It is important to note that many herb farms in the US also import and distribute various natural ingredients from foreign farms and wild collectors and/or enter into contract grower arrangements in order to have certain crops grown (or collected) that require other climates.

Smaller product manufacturing companies will often purchase their natural ingredients from wholesale distribution companies that may offer some value-adding capabilities such as cutting and sifting, particle sizing, granulation, blending, as well as laboratory analysis with certificate of analysis documentation. On the other hand, many wholesale distribution companies might only purchase the ingredients from the primary producers, then re-pack into smaller containers, re-labeling them in order to not disclose their sources.

Here are a few examples of typical natural product trade flows from an ingredient's origin in the developing country to the consumer in the US:

Farm or Wildcrafter in Developing Country Þ Value-Adding Company (e.g. extraction house or oil distiller) or Import/Export Trader in the Developing Country Þ US Import/Export Trading Company Þ Processor (cutting, sifting, repacking) and/or Bulk Ingredient Distributor Þ Consumer Product Manufacturing Company Þ Consumer Product Wholesale Distribution Company Þ Retail Store Þ Consumer

Farm or Wildcrafter in Developing Country Þ Value-Adding Company or Import/Export Trader in the Developing Country Þ US or European Processor (cutting & sifting, extraction, laboratory analysis) Þ US Consumer Product Manufacturing Company Þ Consumer Product Wholesale Distribution Company Þ Retail Store Þ Consumer

Farm or Wildcrafter in Developing Country Þ Value-Adding Company or Import/Export Trader in the Developing Country Þ Direct to US Consumer Product Manufacturer (with value-add capabilities such as extraction, bottle filling and labeling) Þ Consumer Product Wholesale Distribution Company Þ Retail Store Þ Consumer

Farm or Wildcrafter in Developing Country Þ Direct to US Extraction Company Þ US Consumer Product Manufacturer Þ Consumer Product Wholesale Distribution Company Þ Retail Store Þ Consumer

Farm or Wildcrafter in Developing Country Þ Direct to US Consumer Product Manufacturer (with value-add capabilities such as milling, extraction and final packaging) Þ Consumer Product Wholesale Distribution Company Þ Retail Store Þ Consumer

In many cases, natural product marketing companies have no production capabilities and, therefore, have their products manufactured entirely by a contract manufacturing company. The product marketing company may specify the grade and quality of natural ingredients for their consumer products, and they may even specify the ingredient supplier from whom the contract manufacturer must purchase the ingredients. More often, however, the contract manufacturer is entrusted to purchase the natural ingredients based on their own criteria and best relationships. In such cases, it may be more important for the natural ingredient producer to develop a relationship with the contract manufacturer than with the product marketing company.

There are also a number of vertically-integrated natural product companies in the US. Several natural product companies own and operate their own farms or have contract grower arrangements for some of their natural ingredient supply requirements. Examples of vertically-integrated cosmetic and/or herbal dietary supplement companies in the US include **Amway Corporation**, which owns **Trout Lake Farm** (four farm locations; Washington, California, Mexico, Brazil), **Eclectic Institute**, which operates a 90 acre organic herb farm, **Herb Farm**, which operates an 85 acre organic herb farm, **Young Living**, which operates a 1,600 acre organic herb farm (two locations), and **Gaia Herbs**, which operates a 250 acre organic herb farm. Additionally, 35% of Gaia Herbs is owned by **Pure World, Inc.,** which also owns **Pure World Botanicals**, a manufacturer and marketer of natural ingredients for cosmetic and dietary supplements. The aforementioned natural product companies also have extraction and/or distillation facilities at their farm locations, as well as packaging and labeling equipment for packing the final dosage form. Please refer to the Herb Farms section of Appendix II for details.

Other US natural product companies also own and operate foreign farms, have joint ventures with foreign farms, or contract with foreign growers for specific crops. For example, **New Chapter**, a manufacturer and marketer of natural cosmetics (e.g. GeremyRose® brand skin care products) and herbal dietary supplement products (e.g. Supercritical Therapy® brand), operates **Luna Nueva Farm** in La Tigra, Costa Rica, a 74 acre certified organic and biodynamic ginger and turmeric farm. Another example is **Guayakí Sustainable Rainforest Products,** which has their maté leaf certified organically grown on the 20,000 acre Guayakí Rainforest Reserve in Paraguay.

A leading US natural cosmetic brand, **Aveda Corporation**, has financed the construction of a babassu processing facility and a soap-making facility in Brazil. Aveda buys certified organic babassu directly from the women's collectives in the region, bypassing importers and middleman companies. Aveda Corporation also works in partnership with the non-profit Conservation International in the Madre de Dios territory of Peru to develop environmentally friendly businesses that encourage the conservation of their natural resources, with activities including the production of innovative natural ingredients for Aveda products.

Another interesting example is **Renaissance Herbs**, a vertically-integrated US company that markets not only bulk natural ingredients (a range of branded Ayurvedic, Chinese, and Specialty Nutriceutical extract ingredients for cosmetics and dietary supplements) but also a dietary supplement consumer product line (Ayurceutics™). Renaissance owns an extract manufacturing facility in India, which organizes its own botanical raw material procurement and manufactures its branded products for distribution in the US.

Finally, it is also important to realize that some of the leading cosmetic and dietary supplement consumer products in the US market are actually manufactured in Europe. These foreign natural products are re-labeled for the US market and distributed by the foreign company's US sales and marketing division, or through a

subsidiary, or by a company that has obtained exclusive sales and marketing rights for the US. For example, EuroPharma™ (http://www.europharmausa.com/) distributes European-made natural personal care products and natural medicines.

Leading natural cosmetics brands in the US that are manufactured in Europe include Börlind of Germany (http://www.borlind.com/), Camocare® (http://www.camocare.com/), Dr. Hauschka (http://www.drhauschka.com/), and Weleda (http://usa.weleda.com/). In the case of European natural products being distributed in the US, the natural ingredient producers and exporters in developing countries will need to develop relationships with the product manufacturer's buyers located in Europe rather than with the product marketers in the US.

6 PACKAGING AND LABELING

Depending on the specific natural ingredient(s) being imported into the US, one or more governmental agencies may become involved in the inspection of the imported goods, their packaging, labeling and related documentation, including the Animal and Plant Health Inspection Service (APHIS), Drug Enforcement Agency (DEA), Food and Drug Administration (FDA), Food Safety Inspection Service (FSIS), United States Department of Agriculture (USDA), and the US Customs Service.

In addition to legal requirements for the packaging and labeling of imported ingredients, importers are likely to have their own specific, additional packaging and labeling requirements, for example requirements that the seller's lot number is stenciled on each sack or drum, as well as the buyer's item code number and the purchase order number. The buyer may also specify the packaging type (e.g. poly-lined 55 gallon fiber drum) and the pallet type and configuration. In general, natural ingredients should be packed in tightly sealed, lined containers that will protect against cross-contamination, spillage, moisture damage, and insect infestation.

Labeling requirements include:

- English name of the ingredient
- English name of country of origin
- Name and address of the producer
- Gross weight
- Net and tare weights
- Vendor's lot number (must match lot number on packing list)
- Any other information requested by the buyer (e.g. buyer's item code)

If the imported natural ingredient is certified organic, the following USDA National Organic Program regulations may also apply:

§ 205.307 Labeling of nonretail containers used for only shipping or storage of raw or processed agricultural products labeled as "100 percent organic," "organic," or "made with organic (specified ingredients or food group(s))."

(a) Nonretail containers used only to ship or store raw or processed agricultural product labeled as containing organic ingredients may display the following terms or marks:
(1) The name and contact information of the certifying agent which certified the handler which assembled the final product;
(2) Identification of the product as organic;
(3) Special handling instructions needed to maintain the organic integrity of the product;
(4) The USDA seal;
(5) The seal, logo, or other identifying mark of the certifying agent that certified the organic production or handling operation that produced or handled the finished product.
(b) Nonretail containers used to ship or store raw or processed agricultural product labeled as containing organic ingredients must display the production lot number of the product if applicable.

Ingredient nomenclature

Dietary supplement law requires product ingredients labeling to be consistent with the Standard Common Names (SCN) as defined in the American Herbal Products Association's *Herbs of Commerce*.[137] Cosmetic ingredients must use nomenclature found in the International Cosmetic Ingredient Dictionary and Handbook published by the Cosmetic Toiletries and Fragrance Association (CTFA).[138]

Country of origin marking requirements

Every article of foreign origin entering the US must be legibly marked with the English name of the country of origin unless an exception from marking is provided for in the law. The marking must be legible, of an adequate size, and clear enough, to be read easily by a person of normal vision. The marking should be located in a conspicuous place, where it can be seen with a casual handling of the article. Abbreviations that unmistakably indicate the name of a country, such as "Gt. Britain" for Great Britain or "Luxemb" for Luxembourg, are acceptable. Variant spellings which clearly indicate the English

name of the country of origin, such as "Brasil" for Brazil and "Italie" for Italy are acceptable. However, it is always preferable to spell out the country's name in full, because any abbreviation may be a cause for confusion. However, "E.C." or "E.U." for European Community or European Union, respectively, are not acceptable abbreviations since they do not indicate the individual country of origin of the good.

The best form of marking is one which becomes a part of the article itself, such as branding, stenciling, stamping, printing, molding, and similar methods. Other forms of marking, such as adhesive labels, also will be acceptable if it is certain that the marking will remain legible and conspicuous until the article reaches the ultimate purchaser in the United States. When tags are used, they must be attached in a conspicuous place and in a manner which assures that, unless deliberately removed, they will remain on the article until it reaches the ultimate purchaser.[139]

FDA

To ensure that FDA is notified of all regulated products imported into the US, the importer, or his/her representative, must file an entry notice and an entry bond with the US Customs Service (Customs) pending a decision regarding the admissibility of the product. FDA inspection and enforcement procedures for imports rely on coordination with Customs. FDA is notified by Customs of the entry and makes a decision as to the article's admissibility. If FDA does not wish to examine the entry, the product is allowed to proceed into US commerce.

USDA

USDA regulatory activities are enforced by the Animal and Plant Health Inspection Service (APHIS), the Food Safety Inspection Service (FSIS), and Agricultural Marketing Service (AMS), among other agencies. In addition, the US Customs Service participates by the detaining of imports when USDA requirements have not been met. APHIS is responsible for enforcing regulations governing the import and export of plants and animals and certain agricultural products. APHIS import requirements depend on both the product and the country of origin. Plants and plant materials usually must be accompanied by a phytosanitary certificate issued by an official of the exporting country.

For USDA National Organic Program regulations, visit:
http://www.ams.usda.gov/nop/NOP/NOPhome.html

US CUSTOMS SERVICE

The US Customs Service cooperates with a number of other Federal agencies, and a license or permit from the responsible agency is necessary to import a range of products including plants and plant products.

7 SALES PROMOTION

Natural ingredient producers and exporters in developing countries should consider exhibiting at relevant supply expos in the US in order to establish contacts with product manufacturer's buyers or to investigate the possibility of securing a business arrangement, exclusive or otherwise, with a suitable importing and ingredient distribution company or broker. It may be possible to obtain the latter without exhibiting, but by only visiting the trade fair and making appointments in advance for private meetings with targeted potential business partners. Meetings with purchasers should be firmed up in advance and should take place away from the show floor if possible. Ingredient distributors generally have only their sales and marketing personnel in the exhibition booth while their purchasing agents may be meeting with their vendors privately at other locations such as hotel suites or restaurants.

Visiting the trade fair can also provide the exporter with valuable market information by attending educational seminars, trade association meetings, industry receptions, and by walking the show floor. Whether visiting or exhibiting, the natural ingredient producer should be prepared with professional printed materials in English language providing an overview of capabilities and a list of offerings.

If the costs of trade fair exhibition are beyond the means of an individual ingredient producer, is may be possible to organize a cooperative exhibition including several producers from the same region under one umbrella, in some cases, partially organized or funded by the export promotion agencies in the country of origin or even by US trade development organizations that may have funding available to cover expenses for producers from developing countries to participate in study tours in the US in order to meet potential buyers and/or to attend trade shows.

The following trade fair is one of the main events of interest to producers of natural ingredients for the US natural cosmetics and dietary supplements market and for the natural product manufacturer's buyers:

SupplySide International Trade Show and Conference
Virgo Publishing - Health & Nutrition Division, P.O. BOX 40079, Phoenix, AZ 85067-0079 USA
For exhibiting information, contact Todd Willis at 480-990-1101, ext. 1171.
For attendee information, contact Stacy Davis at 480-990-1101, ext. 1718.
URL: http://www.supplysideshow.com/

SupplySide is produced by the publishers of the Natural Product's Industry Insider. Insider is subscribed to by more than 10,000 executives in the dietary supplement, food and cosmetic industries. SupplySide is the world's largest trade show and conference for natural ingredient manufacturers and suppliers, and exhibitors and sponsors of SupplySide are the world's leading suppliers of ingredients and services to the natural health product industry.

Please also refer to Appendix IV for a listing of other relevant trade events in the US for producers of natural ingredients in developing countries.

8 MARKET PROSPECTS

For the past three years, the US market for natural products, particularly the herbal dietary supplement segment, has been flat in contrast to the double-digit growth that was enjoyed throughout most of the 1990's. The natural products industry has been plagued with a number of highly publicized negative reports of quality control problems (e.g. substandard quality of ingredients, misbranding, contamination with heavy metals and pesticide residues, etc.), unsubstantiated claims, as well as adverse event reports and other reports of undesired interactions with pharmaceutical drugs.

The sales of most dietary supplements in the US have been headed in a downward spiral for three consecutive years, with the exception of only a few products that are showing significant increases in sales.[140] These few high-demand natural ingredients have been able offset the declining sales of most natural ingredients, thus saving the industry from an overall decline. One of the most important issues and challenges facing the US natural products industry today is the regaining of consumer confidence, which has been blemished due to the negative media reports, among other reasons. The demand is now clearly for natural ingredients that are tested and shown to be of consistent, high quality, and that have been proven to be safe and effective for their intended uses.

Natural ingredients with increasing demand are, in many cases, those that have been shown to alleviate conditions associated with aging. As the US population ages, natural products that are aimed towards the needs of consumers past the age of 40 have the best prospect of success. Any natural cosmetics, cosmeceuticals and/or dietary supplements that promise anti-aging or age-reversing benefits are popular, particularly if the natural ingredients have scientifically documented beneficial activity.

For example, demand is increasing for natural products that have been clinically proven to alleviate conditions associated with menopause, including, particularly, women's health products such as certain extracts of black cohosh rhizome (e.g. GlaxoSmithKline Remifemin® Menopause, manufactured by Schaper and Brümmer GmbH & Co. KG, Germany), red clover inflorescence, (e.g. Promensil®, manufactured by Novogen Laboratories Pty Limited, Australia) and soybean (e.g. Health from the Sun PhytoSoya®, manufactured by Arkopharma Laboratoires Pharmaceutiques, France). According to the Natural Marketing Institute Health and Wellness Trends Database 2003, an estimated 47.2% of women in the US use dietary supplements for menopausal conditions. While dietary supplements cannot be legally marketed in the US for treatment or management of serious disease conditions, an estimated 62.3% of women, nonetheless, use dietary supplements for conditions related to osteoporosis, 51.3% for heart disease, and 50.2% for cancer.[141] In these cases, consumers must learn about the "off-label" uses of certain dietary supplement products through independent third-party literature or books, or through recommendations made by natural healthcare providers such as naturopathic doctors or licensed acupuncturists.

Also, any natural ingredients that have been shown to alleviate symptoms of an enlarged prostate in men, such as certain clinically-tested extracts of nettle root (e.g. Nature's Way ProstActive Plus™, manufactured by Dr. Willmar Schwabe GmbH & Co, Germany), and/or saw palmetto fruit (e.g. Elusan® Prostate, manufactured by Plantes & Médecines, France) are also in demand, as well as natural ingredients that have a positive influence on sexual performance such as epimedium herb and maca root.

Natural ingredients with significant antioxidant capacity that are used in anti-aging cosmetic and/or dietary supplement products are also increasingly popular. Cosmeceutical natural ingredients such as

extracts of frankincense oleo-gum-resin, green tea leaf, rosemary leaf, and turmeric rhizome, among others, are used as active components of various antioxidant and anti-aging skin creams.[142]

The weight-loss industry also represents a huge potential market, albeit a very controversial and fast changing market, for certain natural ingredients due to an estimated 68 million American adults trying to lose weight. Determining the potential value of, and opportunities within, the weight-loss market for ingredient producers is difficult, however, because a significant amount of products in this sub-sector are not sold through the normal channels, but rather through radio and television infomercials (direct sale via telephone call-ins), commercial e-mail (spam), tabloid advertisements, direct mail, Internet websites, as well as through weight-loss franchises and direct marketing through multi-level companies. In 1999, total sales for weight loss supplements were estimated at US $4.6 billion. The retail value of the weight-loss industry includes, however, not only sales of dietary supplements, but also sales of low-calorie foods and drinks, sugar substitutes, meal replacements, OTC and prescription drugs, medical treatments, and other products or service related to weight loss.[143] A significant portion of weight loss supplement sales formerly included extracts of ephedra herb, which, during the past year, has almost completely disappeared from the market due to various regulatory actions and lawsuits, as well as a refusal by insurance carriers to provide product liability insurance to product manufacturers who use controversial ingredients. Natural ingredients sold mainly to manufacturers of weight-loss products are a high-risk prospect as this sub-sector is more frequently subjected to punitive regulatory actions and lawsuits which can rapidly and adversely affect the market demand for an ingredient.

Prospect for traditional medicines

While sales of single-ingredient natural products have generally been in decline, sales of multiple-ingredient natural products have been increasing. This can be explained, in part, by the increasing popularity in the West of traditional systems of medicine (e.g. Ayurvedic Medicine and Traditional Chinese Medicine), wherein herbal and mineral combinations are typical. A growing number of Americans seek primary health care from practitioners of Traditional Chinese Medicine, Indian Ayurvedic Medicine, and Naturopathic Medicine, among other traditional medicine practitioners, rather than making office visits to conventional medical doctors.

In recent years, many foreign Traditional Herbal Medicine product lines have entered the US natural products market labeled as non-drug cosmetics (topical) or dietary supplements (oral). For example, Ayurvedic medicine products of the Himalaya Drug Company (Karnataka, India) are marketed in the US as dietary supplement products under the Himalaya USA brand, Japanese Kampo medicine products of Honso Pharmaceuticals (Nagoya, Japan) are marketed in the US under the Honso® brand, Tibetan medicines by Padma AG (Schwerzenbach, Switzerland) are marketed in the US under the Padma® brand, Traditional Chinese Medicine products by Mayway Corporation (Taiwan) are marketed in the US under the Plum Flower® brand, and a large range of traditional German and Swiss herbal medicine brands (oral and topical) are marketed in the US including Bekunis® (Bremen, Ger.), Bioforce® (Roggwil, Switz.), CamoCare® (Frankfurt, Ger.), Esberitox® and Remifemin® (Salzgitter, Ger.), HerpAlieve® (Emmerthal, Ger.), Iberogast® (Darmstadt, Ger.), Kneipp® (Würzburg, Ger.), Olbas® (Uzwil, Switz.), Pharmaton® (Basel, Switz.), Ricola® (Laufen, Switz.), and Sidroga® (Zofingen, Switz.), among many others. Some of the largest US natural product marketers including Nature's Way (Utah) and Phytopharmaca (Wisconsin) specialize in the marketing of selected clinically-tested European-made Traditional Herbal Medicine products as well as standardized phyto-pharmaceutical products.

Prospect for organic products

The fastest growing natural products sub-category in North America is for certified organic products, including organic cosmetics, foods and dietary supplements. The North American "green" consumer is willing to pay a premium for safe and effective natural remedies that are also produced in an ecologically and economically sustainable manner. Certified organic products (of all types including herbal) in particular, once considered only a niche market, are enjoying dramatic growth due to burgeoning consumer interest in all things organic. Since 1990, retail sales of organic products in the US have grown an average of 20% annually. They are now available in 20,000 natural foods stores and are sold in 73% of all conventional grocery stores. With the passage of the US Department of Agriculture (USDA) National Organic Program, continued growth in the organic industry is expected. [144]

One of the clear opportunities for medicinal herb producers in developing countries is to respond to the growing US preference for "green" or "ecologically sustainable" natural ingredients and finished products over those that contain synthetic components and/or over those that are produced via non-sustainable or conventional methods. On the other hand, consumers and healthcare providers also want clear assurances that medicinal herbal ingredients are of the highest medicinal quality and purity and can be relied on for consistent therapeutic results. North American and European consumers will apparently pay a premium for these assurances.

Suppliers who can gain the expertise required to produce and market not only "pharmacopoeial-grade" natural ingredients but also "certified organic" and/or "certified biodynamic" pharma-grade botanicals, may have an excellent opportunity in the future. By developing the know-how to produce pharma-grade organic herbs, the consumer and healthcare provider can have assurances that satisfy both their ecological and therapeutic expectations.

Ingredients produced in the US

Organic acreage in the US doubled during the 1990's up to at least 1.3 million acres (= 479,705 hectares) and the USDA reports that organic acreage has continued to expand significantly through 2001. [145] A recent estimate of total US acreage dedicated specifically to medicinal plants is 6,400 cultivated acres (= 2,362 hectares) with an additional 83,388 uncultivated acres (= 30,752 hectares) where wild certified organic herbs are collected. [146]

Many of the top-selling natural ingredients in the US cosmetics and dietary supplement markets are already produced on a relatively large scale in North America (US, Canada, or Mexico), e.g. aloe vera gel and juice, cayenne fruit and oleoresin, cranberry fruit and juice, echinacea herb & root & extract, evening primrose oil, flaxseed oil, garlic bulb, ginseng root & extract, jojoba oil, peppermint leaf & oil, soybean, saw palmetto fruit & extract. Other top-sellers are imported mainly from some of the world's largest and most economical producers, for example garlic bulb, ginger rhizome, ginkgo leaf & extract, ginseng root & extract, and green tea leaf & extract from China, while bilberry fruit & extract, milk thistle seed & extract, St. John's wort herb & extract, and valerian root & extract are all imported mainly from EU countries.

It is not generally advisable for the producers in developing countries to consider the cultivation and production of any native North American medicinal and/or aromatic herbs that are already produced on a large scale in the US or Canada, unless the production is carried out under a firm contract grower agreement on a guaranteed sale basis. However, for some US-produced natural ingredients, such as cayenne, ginger and jojoba, US consumption is very close to, or higher, than US production, which therefore points to a potential opportunity for Andean producers of the same

ingredients to watch carefully for future production planning.

Natural ingredients that apparently have the greatest chance of success towards capturing the growing market for "green" products in the US market have one or more of the following characteristics (the more the better):

- Certified organic or certified Biodynamic®, or ethically wild-crafted according to Good Agricultural and Collection Practice (GACP) guidelines
- Certified "Cruelty Free" (not tested on animals)
- Certified to be free of genetically engineered components (GE-free)
- Certified Fair Trade®
- Pharmacologically and/or clinically tested for efficacy
- Long history of use in a traditional system of natural medicine
- Produced under current Good Manufacturing Practices (cGMPs)

Opportunities for Andean producers

Some native South American botanicals are already fairly well established in the US natural products market, for example **cat's claw stem bark** (*Uncaria tomentosa* (WILLD.) DC), which is imported from Peru, **cayenne fruit** (*Capsicum annuum* L. var. *minimum* (MILLER) HEISER), which is imported from Peru and Brazil, **guaraná seed** (*Paullinia cupana* KUNTH. ex H.B.K.), which is imported from Brazil, Columbia, Costa Rica, Panama, and Venezuela, **maca root** (*Lepidium meyenii* WALP), which is imported from Peru, **maté leaf** (*Ilex paraguariensis* ST.- HIL.), which is imported from Brazil, Argentina, Paraguay, Uruguay, Antigua and Barbuda, and Peru, as well as **pau d'arco bark**, (*Tabebuia impetiginosa* (MARTIUS ex DC.) STANDLEY), which is imported mainly from Brazil and Argentina. **Ipecac rhizome and root** (*Cephaëlis acuminata* H. KARST. or Cephaëlis *ipecacuanha* (BROT.) TUSSAC), which is wild collected mainly in Brazil, but also Costa Rica and Nicaragua, is not permitted for use in cosmetic or dietary supplement products. It is used to make Ipecac Syrup USP, which is an OTC poison treatment drug. The FDA is presently deciding, however, whether to move it from OTC to prescription (Rx) drug status.

Some botanicals, not native to South America are also imported into the US in significant amounts such as **black tea leaf** from Argentina and **ginger rhizome** from Brazil and Ecuador, as well as from Central American countries.

Cat's claw bark and maca root

Many of the Andean natural ingredients that are of strong interest to the US natural products market, however, are native to very specific zones of South America and may be difficult, if not impossible, to bring into cultivation elsewhere. For example, experiments to cultivate the native Peruvian plant maca root at other latitudes (e.g. lat. 52ºN in Germany) have failed.[147] Traditional knowledge, intellectual property rights, and cooperative business arrangements with indigenous people in order to gain consistent access to the proper qualities of raw materials are also factors protecting and supporting South American natural ingredient producers at this point.

In a 2001 annual survey of US natural product retailers conducted by *Whole Foods Magazine*, the Peruvian botanical maca root scored within the top ten herbs that respondents believed were "up-and-coming" in the US market.[148]

South American natural ingredients that have gained the greatest acceptance in the US market thus far, include those that are primary components of pharmacologically and/or clinically tested herbal dietary supplement products (e.g. certain **cat's claw bark** extracts and **maca root** extracts); for example, Planetary Formulas® Full Spectrum™ Maca Extract, which contains Pure World Botanicals pharmacologically tested, patented and branded ingredient MacaPure™, and Pinnacle Horny Goat Weed™, a clinically tested product that also contains the Pure World brand MacaPure™ extract, in combination with extracts of epimedium

herb (Epimedium brevicornum MAXIM.), velvet bean (*Mucuna pruriens* (L.) DC.)), and polypody (*Polypodium vulgare* L.). Clinically tested cat's claw bark extract products available in the US market include C-MED-100® (manufactured by Optigene-X, New Jersey) and PhytoPharmica® Saventaro® (manufactured by IMMODAL Pharmaka GmbH, Austria).

Maté leaf

The popularity of **maté leaf** dietary supplement products in the US market has been steadily growing. In 2000, the US imported 556,458 kg, in 2001 873,611 kg, and in 2002 1,050,604 kg.[149] According to SPINS scan data, retail sales of maté leaf teas accounted for nearly US $2.5 million in 2002, up 34.1% from 2001. Increasing maté sales are being driven by a number of factors including the sustainable agriculture efforts promoted by some of the leading brands. For example, Guayakí Sustainable Rainforest Products appears to successfully promote the concept of "Market-Driven Conservation" in order to establish environmental, social, and economic sustainability through conscious consumerism. Their maté leaf product is certified organically grown on the 20,000 acre Guayakí Rainforest Reserve in Paraguay, which supports an indigenous community of 34 families who share 2,500 acres of donated rainforest land. The growing popularity of their maté products is directly related to the US consumer's desire to financially support the indigenous community that cultivates the maté in Paraguay. Sales of maté in the US are also driven somewhat by its status in EU countries, for example Germany's expert Commission E approved maté leaf tea as a non-prescription drug for treatment of mental and physical fatigue,[150] and In France, maté was also approved as a non-prescription remedy indicated for functional asthenia (weakness; lack of energy and strength), as an adjunctive treatment in weight loss programs, and as a diuretic (to enhance the renal excretion of water).[151] American are becoming more aware that many of the natural cosmetic and dietary supplement products available in the US are actually approved OTC drugs in Canada and EU countries, which can affect consumer perception of the safety and efficacy of certain natural products.

Other Andean Natural Ingredients

Some Andean produced natural ingredients, however, are relative newcomers to the US natural products market, for example **boldo leaf** (*Peumus boldus* MOLINA), **chuchuhuasi bark** (*Maytenus krukovii* A.C. SM.), **condurango bark** (*Marsdenia cundurango* RCHB. f.), **dragon's blood croton** (*Croton lechleri* MÜLL. ARG.), **neem leaf** (*Azadirachta indica* A. JUSS.) (also mostly imported from India), and **purple corn extract** (*Zea mays* L.). Successfully introducing a new natural ingredient to the US market requires some amount of investment and education.

Boldo leaf

Boldo leaf is more widely used in the EU than in the US, and it is imported mainly from Chile and Peru. In the US dietary supplement trade, it is found so far in only a few European-made natural products, e.g. Good Earth® Medicinals™ Tea for Digestion™ (Kräuterpfarrer Künzle AG, Minusio, Switzerland), Bioforce® Milk Thistle Complex (Bioforce AG, Roggwil, Switzerland), and Elusan® Liver Support (Plantes & Médecines, Toulouse, France). As the European-made natural products become more popular in the US market, there may be a potential for US companies to eventually become interested in formulating new US-made products with boldo leaf.

Chuchuhuasi bark

There are now a few product manufacturers in the US that specialize in promoting the use of South American natural ingredients like chuchuhuasi bark, among others, in their products, sold usually via direct marketing or mail order, including:

Amazon Herb Company
http://www.amazonherbcompany.net/
Asháninka Products
http://www.ashaninka.com/products.htm
Raintree Nutrition
http://www.amazonherbcompany.net/

Dietary supplement products in the US that contain chuchuhuasi bark include Amazon Teas Shipibo Maté Tea™ (chuchuhuasi bark in combination with maté leaf, pau d'arco bark and cat's claw bark), Asháninka Chuchuhuasi Liquid Tincture, Raintree Nutrition® Chuchuhuasi Concentrated Extract, and Solaray® Chuchuhuasi Capsules.

Condurango bark

Condurango bark is more widely used in the EU than in the US, and it is imported mainly from Ecuador, Peru and Columbia. There are a just a few European-made dietary supplements in the US that contain condurango bark, e.g. Padma Lax® (Padma AG, Schwerzenbach, Switzerland). There are a few smaller US companies that use this herb in dietary supplement products, although they are not widely distributed at this point. If demand increases for European-made, clinically-tested natural products that contain condurango bark such as Padma Lax®, it is possible that US companies may also become interested in formulating new US-made products with this herb.

Dragon's blood croton

As an example of one US company's efforts to promote a new Andean natural ingredient, Shaman Pharmaceuticals (South San Francisco, California) initially became interested in dragon's blood croton tree sap for treating diarrhea through ethnobotanical field research. In order to preserve the ecological sustainability of this natural ingredient for local producers in Peru, Shaman invested US $1 million in a series of innovative initiatives including publishing research on its medicinal benefits as well as an agroforestry educational manual and a book on the biological, anthropological and legal aspects of managing the species. Shaman has also paid for the reforestation of more than 300,000 dragon's blood croton trees, conducted local workshops on sustainable forestry, and invested in the creation of local economic alternatives for indigenous peoples and other communities.[152] In 2000, Shaman licensed their dragon's blood croton product to the General Nutrition Corporation (GNC), a member of the Numico family of companies, which then enabled the new product to be featured in 4,200 GNC health food stores as well as over 500 Rite AID pharmacies.

Purple corn extract

Another example is Peruvian purple corn extract, which Ashaninka Products (Miami, Florida) has been actively promoting in the US (branded ingredient: Purple-X). Ashaninka's Purple-X product is extracted from purple corn, organically grown in the Peruvian Andes, and it is marketed as a natural ingredient for nutraceuticals drinks, dietary supplements, food coloring, and functional foods.

Other Andean natural ingredients are almost completely unknown to the US market at this point, and will therefore require some amount of educational and promotional activities in order to create awareness and demand from the natural product formulators, for example,

from Colombia:

- anamú leaf & root (*Petiveria alliacea* L.)
- bushy matgrass (*Lippia alba* (MILL.) N.E. BR. ex BRITTION & P. WILSON)
- calabash tree extract (*Crescentia cujete* L.)
- chuchuhuasi bark (*Maytenus krukovii* A.C. SM.
- condurango bark (*Marsdenia cundurango* RCHB. f.)
- yoco (*Paullinia yoco* SCHULTES & KILLIP)

from Ecuador:

- ambrette (*Abelmoschus moschatus* MEDIK.)
- chuchuhuasi bark (*Maytenus krukovii* A.C. SM.
- condurango bark (*Marsdenia cundurango* RCHB. f.)
- ishpingo (*Ocotea quixos* KOSTERM)
- Palo Santo (*Bursera graveolens* TRIANA & PLANCH.)

from Peru:

- camu-camu fruit (*Myrciaria dubia* (KUNTH) MCVAUGH)
- chuchuhuasi bark (*Maytenus krukovii* A.C. SM.
- condurango bark (*Marsdenia cundurango* RCHB. f.)
- hercampuri (*Gentianella algorosea*)
- Inca peanut seed (*Plukenetia volubilis* L.)
- muña herb extract (*Mynthostachys setosa*)
- phyllanthus extract (*Phyllanthus niruri* L.)
- yacón root extract (*Smallanthus sonchifolius* (POEPP. & ENDL.) H. ROBINSON).

Camu camu fruit

Of the above listed other Andean natural ingredients for the US market, only camu-camu is listed in the *Natural Products Industry Insider 2003 Buyer's Guide*. The Buyer's Guide lists 25 suppliers of camu-camu fruit in various forms including whole, cut or powdered and extract form, and eight of the suppliers offer certified organic camu camu fruit and/or extract.

Conclusion

In summary, there are certainly opportunities for Andean natural ingredients in the US market, particularly those ingredients that have been pharmacologically and/or clinically tested to be effective for age-related conditions, for example certain cat's claw bark extracts for arthritic conditions and extracts of maca root for sexual stamina are already gaining popularity in the US.

Additionally, Andean natural ingredients that are obtained in an economically and environmentally sustainable manner with a reciprocally beneficial relationship between the US buyer and the Andean supplier are good models such as the aforementioned relationships between the **Aveda Corporation** and local communities in the Madre de Dios territory of Peru, the **Guayakí Sustainable Rainforest Products** organic cultivation of maté leaf that supports an indigenous community in the Paraguayan Guayakí Rainforest Reserve, and the **Herbs America Sustainable Harvest Company**, a marketer of maca root extract products, that promotes itself as supporting native land rights, rainforest protection policies, and sustainable agricultural methods by collaborating with traditional farmers in the Peruvian Junín plateau who only use only organic agricultural methods, among other examples.

APPENDIX I IMPORT/EXPORT STATISTICS TABLES

Table 1 US imports of tea leaf (green and black), 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 0902	$182,011,392	96,646,240
1999	HS 0902	$164,987,376	92,864,464
2000	HS 0902	$162,001,728	88,287,168
2001	HS 0902	$172,678,112	96,668,128
2002	HS 0902.20.9000 HS 0902.40.0000 **NOTE:** 2002 data includes most, but not all, parts of HS 0902	$114,525,000	83,757,422

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 2 US exports of tea leaf (green and black), 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 0902	$16,357,769	4,595,114
1999	HS 0902	$21,332,944	6,204,965
2000	HS 0902	$24,831,264	6,087,791
2001	HS 0902	$23,690,112	5,963,116
2002	HS 0902.10 HS 0902.20 HS 0902.30 HS 0902.40 **NOTE:** 2002 data includes most, but not all, parts of HS 0902	$16,338,000	4,350,700

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 3 US imports of maté leaf, 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 0903	$704,230	350,966
1999	HS 0903	$909,374	431,280
2000	HS 0903	$1,019,590	556,458
2001	HS 0903	$1,548,248	873,611
2002	HS 0903	$1,456,000	1,050,604

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 4 US exports of maté leaf, 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 0903	$441,634	113,056
1999	HS 0903	$219,291	37,687
2000	HS 0903	$197,388	61,649
2001	HS 0903	$74,837	12,768
2002	HS 0903	$90,000	31,781

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 5 US imports of cayenne (Capsicum) fruit, black pepper (Piper), and pimenta, 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 0904	$312,823,584	97,555,264
1999	HS 0904	$365,333,760	113,604,912
2000	HS 0904	$359,625,824	112,591,832
2001	HS 0904	$249,699,024	124,307,296
2002	HS 0904.20.2000	$20,819,000	12,405,921
	NOTE: 2002 data contains only one part of HS 0904		

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 6 US exports of cayenne (Capsicum) fruit, black pepper (Piper), and pimenta, 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 0904	$29,345,354	8,466,328
1999	HS 0904	$26,832,100	8,719,478
2000	HS 0904	$29,208,774	10,316,198
2001	HS 0904	$25,608,298	10,915,227
2002	HS 0904	$18,028,000	8,637,129

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 7 US imports of seeds of anise, badian, caraway, coriander, cumin, fennel, and juniper berries 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 0909	$24,355,290	18,872,820
1999	HS 0909	$21,667,554	18,942,136
2000	HS 0909	$27,840,948	19,997,834
2001	HS 0909	$31,213,310	20,618,108
2002	HS 0909	$26,147,000	20,378,080

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 8 US exports of seeds of anise, badian, caraway, coriander, cumin, fennel, and juniper berries 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 0909	$1,609,134	705,136
1999	HS 0909	$1,162,117	563,727
2000	HS 0909	$1,434,295	658,867
2001	HS 0909	$2,985,946	1,639,723
2002	HS 0909	$1,294,000	826,108

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 9 US imports of ginger rhizome, turmeric rhizome, saffron, thyme herb, bay leaf, and other spices 1998–2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 0910	$64,331,032	31,383,148
1999	HS 0910	$68,358,952	34,355,040
2000	HS 0910	$72,860,008	37,596,672
2001	HS 0910	$66,011,876	38,115,512
2002	HS 0910.10.2000 HS 0910.10.4000 HS 0910.30.0000 HS 0910.40.2000 **NOTE:** 2002 data does not include bay leaf, curry, spice mixes, or other spices not listed	$20,421,000	25,523,025

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 10 US exports of ginger rhizome, turmeric rhizome, saffron, thyme herb, bay leaf, and other spices 1998–2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 0910	$25,430,786	9,011,577
1999	HS 0910	$29,301,892	9,530,515
2000	HS 0910	$22,837,288	7,460,259
2001	HS 0910	$21,574,798	7,689,029
2002	HS 0910.10.0000 HS 0910.20.0000 HS 0910.30.0000 HS 0910.40.2000 **NOTE:** 2002 data does not include bay leaf, curry, spice mixes, or other spices not listed	$1,644,000	898,119

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 11 US imports of hop strobile 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1210	$32,071,528	5,004,604
1999	HS 1210	$30,382,014	5,059,426
2000	HS 1210	$29,756,110	5,025,995
2001	HS 1210	$24,980,136	4,633,253
2002	HS 1210	$19,491,000	3,334,883

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 12 US exports of hop strobile 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1210	$34,555,368	6,399,932
1999	HS 1210	$29,815,798	6,246,539
2000	HS 1210	$31,211,024	5,633,558
2001	HS 1210	$42,067,056	6,552,326
2002	HS 1210.10.0000 HS 1210.20.0020 HS 1210.20.0040	$27,682,000	4,804,440

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 13 US imports of medicinal herbs used primarily in perfumery and pharmacy (e.g. basil, ginseng, licorice, peppermint, psyllium, sage, senna) 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1211	$186,550,624	62,297,928
1999	HS 1211	$144,761,264	53,084,552
2000	HS 1211	$143,705,392	50,332,504
2001	HS 1211	$148,215,616	55,737,340
2002	HS 1211.10.0000 HS 1211.20.0020 HS 1211.20.0040 HS 1211.90.2000 HS 1211.90.4020 HS 1211.90.4040 HS 1211.90.9020 HS 1211.90.9031 HS 1211.90.9040 HS 1211.90.9050 HS 1211.90.9080 HS 1211.90.9090 **NOTE:** 2002 data does not include coca leaf or poppy straw	$128,954,000	54,238,327

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 14 US exports of medicinal herbs used primarily in perfumery and pharmacy (e.g. basil, ginseng, licorice, peppermint, psyllium, sage, senna) 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1211	$104,053,272	17,398,108
1999	HS 1211	$106,652,224	15,906,411
2000	HS 1211	$108,343,088	18,022,824
2001	HS 1211	$78,890,752	16,171,990
2002	HS 1211.10.0000 HS 1211.20.0020 HS 1211.20.0040 HS 1211.90.9025 HS 1211.90.9080 HS 1211.90.9095 **NOTE:** 2002 data does not include coca leaf or poppy straw	$69,888,000	10,803,547

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 15 US imports of seaweeds and other algae 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1212.20	$40,531,144	28,620,452
1999	HS 1212.20	$47,174,896	55,909,940
2000	HS 1212.20	$46,749,132	38,528,868
2001	HS 1212.20	$43,193,256	44,577,380
2002	HS 1212.20	$41,640,000	43,896,468

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 16 US exports of seaweeds and other algae 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1212.20	$9,810,729	1,773,413
1999	HS 1212.20	$9,095,875	1,627,160
2000	HS 1212.20	$10,026,942	1,575,937
2001	HS 1212.20	$11,955,945	1,725,286
2002	HS 1212.20	$12,755,000	1,923,930

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 17 **US imports of lac, natural gums, resins, gum-resins and balsams 1998-2002 / US dollars / kilograms**

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1301	$54,548,396	30,226,176
1999	HS 1301	$49,195,120	20,697,048
2000	HS 1301	$45,365,764	21,498,162
2001	HS 1301	$43,270,508	23,037,674
2002	HS 1301.10.0020 HS 1301.10.0060 HS 1301.20.0000 HS 1301.90.4000 HS 1301.90.9010 HS 1301.90.9030 HS 1301.90.9040 HS 1301.90.9090 **NOTE:** 2002 data does not include bleached shellac	$34,534,000	20,866,553

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 18 **US exports of lac, natural gums, resins, gum-resins and balsams 1998-2002 / US dollars / kilograms**

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1301	$32,920,360	12,802,726
1999	HS 1301	$24,556,876	7,861,781
2000	HS 1301	$36,016,452	16,711,659
2001	HS 1301	$32,887,296	15,526,626
2002	HS 1301.10.0000 HS 1301.20.0000 HS 1301.90.0000	$26,837,000	8,712,495

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce

Table 19 US imports of vegetable saps and extracts (e.g. extracts of aloe, ginseng, hops, licorice), agar-agar, mucilages, etc. 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1302	$609,959,488	107,284,464
1999	HS 1302	$516,807,072	82,061,752
2000	HS 1302	$466,842,208	99,464,160
2001	HS 1302	$470,714,432	115,989,328
2002	HS 1302	$347,304,000	95,778,885
	NOTE: 2002 data does not include opium and pyrethrum		

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 20 US exports of vegetable saps and extracts (e.g. extracts of aloe, ginseng, hops, licorice), agar-agar, mucilages, etc. 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1302	$197,728,064	25,772,212
1999	HS 1302	$197,491,696	25,569,340
2000	HS 1302	$218,991,936	28,177,880
2001	HS 1302	$260,477,376	31,789,160
2002	HS 1302	$236,833,000	29,453,908
	NOTE: 2002 data does not include opium and pyrethrum		

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 21 US imports of ground-nut oil and its fractions 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1508	$30,081,690	30,336,200
1999	HS 1508	$9,409,103	9,633,005
2000	HS 1508	$14,850,255	18,916,986
2001	HS 1508	$26,457,208	34,649,096
2002	HS 1508	$20,761,000	31,108,186

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 22 US exports of ground-nut oil and its fractions 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1508	$4,548,129	4,260,973
1999	HS 1508	$4,946,570	5,806,844
2000	HS 1508	$4,547,794	5,514,660
2001	HS 1508	$5,069,404	6,544,846
2002	HS 1508	$3,225,000	3,653,095

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 23 US imports of coconut (copra), palm kernel or babassu oil and fractions 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1513	$489,187,232	737,359,104
1999	HS 1513	$412,141,408	543,928,704
2000	HS 1513	$386,953,440	645,091,904
2001	HS 1513	$247,302,512	616,927,872
2002	HS 1513	$251,876,000	657,700,092

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 24 US exports of coconut (copra), palm kernel or babassu oil and fractions 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1513	$5,287,208	6,731,883
1999	HS 1513	$9,063,883	10,942,785
2000	HS 1513	$10,472,372	12,661,427
2001	HS 1513	$6,918,349	8,637,726
2002	HS 1513	$4,052,000	4,314,500

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 25 US imports of fixed vegetable fats and oils (e.g. castor oil, corn oil, flaxseed oil, hemp oil, jojoba oil, etc.) 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1515	$111,174,080	83,313,168
1999	HS 1515	$118,308,664	89,104,288
2000	HS 1515	$111,992,928	72,654,144
2001	HS 1515	$113,982,552	99,013,904
2002	HS 1515	$113,334,000	86,233,406

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 26 US exports of fixed vegetable fats and oils (e.g. castor oil, corn oil, flaxseed oil, hemp oil, jojoba oil, etc.) 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1515	$474,724,544	592,459,072
1999	HS 1515	$389,691,456	524,385,760
2000	HS 1515	$327,727,168	545,560,576
2001	HS 1515	$307,503,456	561,154,176
2002	HS 1515	$402,597,000	667,538,693

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 27 US imports of hydrogenated vegetable fats and oils (e.g. canola oil) 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1516.20	$101,053,808	117,481,016
1999	HS 1516.20	$75,062,328	98,576,432
2000	HS 1516.20	$63,877,740	102,037,512
2001	HS 1516.20	$61,357,976	108,169,864
2002	HS 1516.20	$63,810,000	97,808,506

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 28 US exports of hydrogenated vegetable fats and oils (e.g. canola oil) 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1516.20	$78,930,392	77,127,184
1999	HS 1516.20	$69,954,048	70,631,848
2000	HS 1516.20	$92,724,192	95,239,200
2001	HS 1516.20	$87,347,120	95,793,008
2002	HS 1516.20	$105,065,000	112,330,376

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 29 US imports of vegetable waxes (except triglycerides), insect wax (beeswax), and spermaceti 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1521	$23,122,652	6,187,993
1999	HS 1521	$24,190,620	7,445,923
2000	HS 1521	$22,422,032	6,317,911
2001	HS 1521	$19,966,816	6,299,861
2002	HS 1521	$16,205,000	6,249,594

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 30 US exports of vegetable waxes (except triglycerides), insect wax (beeswax), and spermaceti 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1521	$9,060,873	3,341,145
1999	HS 1521	$6,672,160	2,396,894
2000	HS 1521	$7,518,301	2,758,687
2001	HS 1521	$6,016,181	1,960,113
2002	HS 1521	$6,113,000	2,138,335

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 31 US imports of cocoa butter, fat and oil 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1804	$273,138,080	65,307,016
1999	HS 1804	$237,468,272	80,475,568
2000	HS 1804	$210,839,712	94,648,560
2001	HS 1804	$171,747,376	80,805,680
2002	HS 1804	$136,561,000	54,788,302

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 32 US exports of cocoa butter, fat and oil 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 1804	$40,375,160	9,980,294
1999	HS 1804	$38,162,696	9,963,549
2000	HS 1804	$34,715,548	11,143,764
2001	HS 1804	$50,426,852	18,879,406
2002	HS 1804	$46,187,000	15,094,688

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 33 US imports of tea leaf & maté leaf extracts 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 2101.20.2000	$50,388,880	42,063,800
1999	HS 2101.20.2000	$59,218,532	54,606,772
2000	HS 2101.20.2000	$68,541,512	69,880,760
2001	HS 2101.20.2000	$78,157,792	65,389,168
2002	HS 2101.20.2000	$23,577,000	4,492,983

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 34 US exports of tea leaf & maté leaf extracts 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 2101.20.2000	$17,327,876	4,436,685
1999	HS 2101.20.2000	$21,324,384	5,430,094
2000	HS 2101.20.2000	$23,888,736	7,107,144
2001	HS 2101.20.2000	$31,297,220	10,993,828
2002	HS 2101.20.0020 HS 2101.20.0040	$29,344,000	8,801,677

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 35 US imports of colouring matter of plant (e.g. annato) or animal (e.g. cochineal) origin (including dyeing extracts but excluding animal black) 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 3203	$53,911,500	6,166,268
1999	HS 3203	$61,199,520	7,240,298
2000	HS 3203	$62,331,124	6,734,596
2001	HS 3203	$53,335,272	5,025,671
2002	HS 3203	$44,022,000	4,803,778

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 36 US exports of colouring matter of plant (e.g. annato) or animal (e.g. cochineal) origin (including dyeing extracts but excluding animal black) 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 3203	$14,781,205	3,797,824
1999	HS 3203	$14,661,083	8,633,957
2000	HS 3203	$14,312,264	2,481,729
2001	HS 3203	$15,533,865	2,811,130
2002	HS 3203	$18,318,000	3,783,844

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 37 US imports of essential oils, resinoids and oleoresins (including capsicum oleoresin) 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 3301	$300,917,568	31,098,568
1999	HS 3301	$259,875,696	27,029,204
2000	HS 3301	$278,009,504	26,611,240
2001	HS 3301	$273,961,888	29,757,240
2002	HS 3301	$290,204,000	32,205,814

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

Table 38 US exports of essential oils, resinoids and oleoresins (including capsicum oleoresin) 1998-2002 / US dollars / kilograms

Period	HS CODE	Trade Value US Dollars	Trade Quantity (kg)
1998	HS 3301	$286,825,344	21,032,926
1999	HS 3301	$280,171,104	23,638,712
2000	HS 3301	$300,802,240	29,967,828
2001	HS 3301	$298,770,016	31,760,520
2002	HS 3301	$297,161,000	29,690,463

Sources: 1998-2001: COMTRADE Database, United Nations Statistics Division; 2002: Foreign Trade Division, U.S. Census Bureau. Presented by: Office of Trade and Economic Analysis (OTEA), International Trade Administration, U.S. Department of Commerce.

APPENDIX II IMPORTERS / WHOLESALERS OF NATURAL INGREDIENTS IN THE US

EXTRACT MANUFACTURERS

ALOECORP
100 Technology Drive, Suite 325
Broomfield, Colorado 80021 USA
TEL: 303 635-2200
FAX: 303 635-2300
URL: http://www.aloecorp.com/

A.M. TODD COMPANY
West Coast: 4091 West 11th Avenue
Eugene, OR 97402 USA
TEL: 541 687-0155
FAX: 541 485-7347
East Coast: 150 Domorah Drive,
Montgomeryville, PA 18936 USA
TEL: 215 628-8895 / FAX: 215 628-8651
E-mail: info@amtodd.com
URL: http://www.amtodd.com/

AMAX NUTRASOURCE, INC.
1770 Prairie Road, Eugene, OR 97402, USA
TEL: 541-688-4944 / FAX: 541-688-4866
14291 East Don Julian Road
City of Industry, CA 91746, USA
TEL:626-961-6600
FAX:626-961-2890
E-mail: info@amaxnutrasource.com
URL: http://www.amaxnutrasource.com/

AVOCA, INC.
A subsidiary of Pharmachem Labs, Inc.
State Road 1502
Merry Hill, Bertie, NC 27957 USA
TEL: 201 246-1000
FAX: 201 246-8105
E-mail: sales@pharmachemlabs.com
URL: http://www.pharmachemlabs.com/

BIO-BOTANICA
75 Commerce Drive
Hauppauge, NY 11788-3942 USA
TEL: 631.231.5522
FAX: 631.231.7332
URL: http://www.bio-botanica.com/

CHART CORPORATION, INC.
787 East 27th Street
Paterson, New Jersey 07504 USA
TEL: 973-345-5554
FAX: 973-345-2139
URL: http://www.chartcorp.com/

DESERT KING INTERNATIONAL
[Manufacturing Plants: Chile & Mexico]
7024 Manya Circle
San Diego CA, 92154 USA
FAX: 619 429 5001
URL: http://www.desertking.com/

DRACO NATURAL PRODCTS, INC.
[Manufacturing Plant: DRACO CHINA,
Shanghai, People's Republic of China]
539 Parrott Street, San Jose, CA 95112 USA
TEL: 408.287.7871
FAX: 408.287.8838
E-mail: info@DracoHerbs.com
URL: http://www.dracoherbs.com/index.htm

EUROMED USA, INC.
[Manufacturing Plant: EUROMED S.A,
C/ Rec de Dalt 21-23, Poligon Can Magarola
08100 - Mollet del Valles, Barcelona, Spain]
Manor Oak One, Suite 405, 1910 Cochran Road
Pittsburgh, PA 15220 USA
TEL: 412-344 39 60
FAX: 412-344 39 64
URL: http://www.euromed.es/index.htm

FINZELBERG, INC.
[Manufacturing Plant: Finzelberg GmbH & Co.
KG Koblenzer Strasse 48-56, 56626 Andernach,
Germany]
2 Sylvan Way, Parsippany, NJ 07054-3806 USA
TEL: 973.683.1411
FAX: 973.683.0177
E-mail: info@plantextrakt-inc.com
URL: http://www.finzelberg.com/

FRUTAROM, INC.
9500 Railroad Ave.
North Bergen, New Jersey 07047 USA
TEL: 201 861-9500
FAX: 201 861-4323
E-mail: usa@frutarom.com
URL: http://www.frutarom.com/index.html

HAUSER, INC.
4161 Specialty Place
Longmont, CO 80504 USA
TEL: 720 652-7000
FAX: 303 684-0430
E-mail: contactco@Hauser.com
URL: http://www.hauser.com/

IMPROVE U.S.A., INC.
215 Dalton Drive, Suite D
DeSoto, Texas 75115 USA
TEL: 972-230-9155
FAX: 972-230-8824
E-mail: ImproveUSA@Aloewholesale.com
URL: http://www.aloewholesale.com/index.htm

INDENA USA, INC.
[Manufacturing Plant: Indena S.p.A. - Milan, Italy 20139 Milan, Italy Viale Ortles, 12]
East Coast: 1719 Route 10 East, Suite 311
Parsippany, New Jersey 07054 USA
TEL: 973 401 0077
FAX: 973 401 0078
West Coast: 1001 Fourth Avenue Plaza, Suite 3714, Seattle, WA 98154 - USA
TEL: 206 340-6140
FAX: 206 340-0863
E-mail: elke@indenausa.com
URL: http://www.indena.it/

KADEN BIOCHEMICALS, INC.
[Manufacturing Plant: Kaden Biochemicals GmbH, Porgesring 50, Hamburg, Germany]
17 Camden Road
Belle Mead, New Jersey 08502 USA
TEL: 908.359.8846
FAX: 908.359.8856
E-mail: kaden.bio@t-online.de
URL: http://www.kadenbio.com/english/index.html

LINNEA USA
[Manufacturing Plant: Linnea SA, Via Cantonale, 6595 Riazzino (Locarno), Switzerland]
435 McCartney Street, Easton, PA, 18042 USA
TEL: 610-253-7950
FAX: 610-253-7970
E-mail: sales@linnea-worldwide.com
URL: http://www.linnea-worldwide.com/home1.asp

PLANTEXTRAKT, INC.
[Manufacturing Plant: Plantextrakt GmbH & Co. KG, Dutendorfer Strasse 5-7, 91487 Vestenbergsgreuth Germany]
2 Sylvan Way
Parsippany, New Jersey 07054 USA
TEL: 973.683.1411
FAX: 973.683.0177
E-mail: info@plantextrakt-inc.com
URL: http://www.plantextrakt.com/

PURE WORLD BOTANICALS
375 Huyler Street
South Hackensack, New Jersey 07606 USA
TEL: 201 440-5000
FAX: 201 342-8000
E-mail: pureworld@pureworld.com
URL: http://www.pureworld.com/

RENAISSANCE HERBS, INC.
[Manufacturing Plant: Dhanvantari Botanicals, Pvt. Ltd, Bangalore, India]
9588 Topanga Canyon Blvd.
Chatsworth, California 91311 USA
TEL: 818.709.2411
FAX: 818.709.2414
E-mail: info@renaissanceherbs.com
URL: http://www.renaissanceherbs.com/#

SABINSA CORPORATION
121 Ethel Road West, Unit #6
Piscataway, New Jersey 08854, USA
TEL: 732-777-1111
FAX: 732-777-1443
E-mail: Info@sabinsa.com
URL: http://www.sabinsa.com/

US NUTRACEUTICALS, LLC
2751 Nutra Lane
Eustis, Florida 32726
TEL: 352-357-2004
FAX: 352-483-2095
E-mail: usncustomerservice@usnutra.com
URL: http://www.usnutra.com/

YAKIMA CHIEF, INC. CO_2 EXTRACTION
555 West South Hill Road;
P.O. Box 209; Sunnyside, Wshington 98944
TEL: 509 839-9022
FAX: 509 839-5570
http://www.yakimachief.com/facilities/CO2extract.html

ESSENTIAL OIL PRODUCERS

A.M. TODD COMPANY
World's largest supplier of peppermint and spearmint essential oil
1717 Douglas Avenue, Box 50711
Kalamazoo, MI 49005 USA
TEL: 616 343-2603
FAX: 616 343-3399
E-mail: info@amtodd.com
URL: http://www.amtodd.com/index.html

AROMA CREATIONS, INC.
24691 State Route 20
Sedro-Woolley, Washington 98284-8012 USA
TEL: 360.854.9000
FAX: 360.856.4384
E-mail: info@aromacreations.com
URL: http://www.aromacreations.com/

B&G FARMS
18,000 acre peppermint leaf farm
Royal City, Washington, USA

CITRUS AND ALLIED ESSENCES, LTD.
3000 Marcus Avenue
Lake Success, NY 11042 USA
TEL: 718-343-0030
FAX: 516-354-1262
E-mail: info@citrusandallied.com
URL: http://www.citrusandallied.com/

I.P. CALLISOIN & SONS
Peppermint oil & Spearmint oil
600 Stewart Street, Suite 2000
Seattle, WA 98101
TEL: 206 441-7752
FAX: 206 728-9041
E-mail: info@ipcallison.com
URL: http://www.callisonsinc.com/company/callison.html

LABBEEMINT
Mint oil
P.O. Box 130
Harrah, WA 98933
TEL: 509 848-2022

THE LEBERMUTH COMPANY
TEL: 574.259.7000
FAX: 574.258.7450
E-mail: info@lebermuth.com
URL: http://www.lebermuth.com/

WM. LEMAN COMPANY
Peppermint oil & Spearmint oil
P.O. Box 100
Bremen, Indiana 46506-0100 USA
TEL: 219 546-2371
FAX: 219 546-5762
E-mail: info@wmleman.com
URL: http://www.wmleman.com/

YOUNG LIVING ESSENTIAL OILS
1,800 acres of organic farmland in Utah and Idaho, and 70,000 square feet of greenhouse
URL:
http://younglivingyounglivingworld.com/MainFrame.asp?BodyFrame=business/profile_main.asp

HERB FARMS AND WILD COLLECTORS

ALOECORP
Largest aloe vera farm in US
100 Technology Drive, Suite 325
Broomfield, Colorado 80021 USA
TEL: 303 635-2200
FAX: 303 635-2300
URL: http://www.aloecorp.com/

AMERICAN BOTANICALS
Broad range of wild collected medicinal herbs
24750 Highway FF, Eolia, Missouri 63344 USA
TEL: 573.485.2300
FAX: 573.485.3801
URL: http://www.americanbotanicals.com/

A.M. TODD COMPANY
Large scale cultivation of peppermint leaf and spearmint leaf for oil production
1717 Douglas Avenue, Box 50711
Kalamazoo, MI 49005 USA
TEL: 616 343-2603
FAX: 616 343-3399
E-mail: info@amtodd.com
URL: http://www.amtodd.com/index.html

AROMATICS INC.
Large scale cultivation of catnip, peppermint, spearmint, and other herbs
PO Box 13093, Salem, Oregon 97309 USA
TEL: 503.363.9494
FAX: 503.363.3395
E-mail: aromatics@msn.com

B&G FARMS
18,000 acre peppermint leaf farm
Royal City, Washington, USA

BOSTON JOJOBA COMPANY
940 acre jojoba farm in Arizona
URL: http://www.bostonjojoba.com/visit.asp

CACHALOT, EL NINO, & MILLA VERDE FARMS
Largest commercial jojoba plantation in US
Desert Whale Jojoba Company, Inc.
P.O. Box 41594, 2101 East Beverly Dr.
Tucson, AZ 85717 USA
TEL: 520 882-4195
FAX: (520) 882-7821
URL: http://www.desertwhale.com/farms/farms.html

CHARLESTON TEA PLANTATION
127-acre tea leaf farm owned by the R.C. Bigelow Tea Co.
6617 Maybank Highway, Charleston, SC USA
TEL: 843 559-0383
URL: http://www.bigelowtea.com/

DESERT HERB COMPANY, INC.
Organic & commercial medicinal & culinary herb cultivation
PO Box 125, 1003 Ranch Road
Chamberino, New Mexico 88027 USA
TEL: 505.882.2425
FAX: 505.882.1910
E-mail: tjfarm1@juno.com

ELECTIC INSTITUTE FARM
90 acre organic medicinal herb farm (40 herbs; echinacea, ginkgo, goldenseal, hops)
36350 S.E. Industrial Way
Sandy, Oregon 97055 USA
TEL: 503 668-4120
FAX: 503 668-3227
URL: http://www.eclecticherb.com

GAIA HERB FARM
250 acre organic medicinal herb farm
(50 herbs; echinacea, feverfew, valerian)
108 Island Ford Road
Brevard, NC 28712
URL: http://www.gaiaherbs.com/Page6.htm

GARNAY, INC.
1,200-acre ginkgo leaf farm
3100 Ebenezer Rd, Sumter, SC 29153 USA
TEL: 803-469-8078
FAX: 803-469-2122
E-mail: info@garnay-inc.com
URL: http://www.garnay-inc.com/

HERB PHARM FARM
85 acre organic medicinal herb farm; 110 herbs: black cohosh, echinacea, valerian)
PO Box 116, Williams, OR 97544 USA
TEL: 800-348-4372
E-mail: info@herb-pharm.com
URL: http://www.herb-pharm.com/Company/pharm_fs.html

KAUAI ORGANIC FARMS, INC.
45 acre organic medicinal herb farm
(ginger rhizome, noni fruit, turmeric rhizome)
PO Box 1338 Kilauea, HI 96754
TEL: 808 651-1777
FAX: 808 828-1343
E-mail - neal@kauaiorganicfarms.com
URL: http://www.kauaiorganicfarms.com/index.html

KLICKITAT ORGANICS, LLC
350 acre organic herb farm (catnip, feverfew, nettles, red clover, sage, thyme)
149 Little Mountain Road
Trout Lake, WA 98650 USA
TEL: 509.395.3680
FAX: 509.395.3683
E-mail: klickitat@gorge.net

LavenderFarms.com
A group of five lavender flower farms in Washington State
URL: http://www.lavenderfarms.com/olympic/oly.htm

LAVENDER HILL
100 acre organic lavender flower estate in Southern Oregon
TEL: 541-857-8168
E-mail: LAVENDERHILLInc@aol.com
URL: http://www.lavenderhillfarm.com/

PACIFIC BOTANICALS
114 acre organic medicinal herb farm plus wild collected herbs
4350 Fish Hatchery Road
Grants Pass OR 97527 USA
TEL: 541-479-7777
FAX: 541-479-5271
E-mail: info@pacificbotanicals.com
URL: http://www.pacificbotanicals.com/

PLANTATION MEDICINALS, INC.
Large scale cultivation & wild collection (echinacea, saw palmetto)
PO Box 128, 1401 County Road 830
Felda, Florida 33930 USA
TEL: 941.675.2984
FAX: 941.675.4591

Pu'u'ala FARM AND RANCH
1,000 acre organic medicinal herb farm (kava root & leaf, neem leaf, noni fruit)
Honokaa, HI 96727
PO Box 4175, Hilo, HI 96720 USA
TEL: 888-315-4100
FAX: 808-935-8854
E-mail: orders@puuala.com
URL: http://planet-hawaii.com/puuala/index.htm

PURCELL JOJOBA INTERNATIONAL
1,200 acre jojoba farm in Bouse, Arizona
142 Front Street, Avila, CA 93424 USA
TEL: 805.595.7275
FAX: 805.595.9238
URL: http://www.purcelljojoba.com/

SAN FRANCISCO HERB & NATURAL FOOD CO.
Echinacea, peppermint, spearmint cultivation
Central Oregon
E-mail: info@herbspicetea.com
URL: http://www.herbspicetea.com/

SAW PALMETTO BERRIES CO-OP OF FLORIDA
Saw palmetto fruit collection
1206 Kings Way Naples, Florida 34104 USA
TEL: 239 775-4286
FAX: 239 775-9818
URL: http://www.sawpalmettoco-op.net/

STRATEGIC SOURCING, INC.
Large range of cultivated and wild collected medicinal herbs; some certified organic
115 Snow Ridge Road, Banner Elk, NC 28604
TEL: 828-898-7642
FAX: 828-898-7647
Email: efletcher@strategicsourcinginc.net
URL: http://www.strategicreports.com/ssi.asp

TROUT LAKE FARM, LLC
1,200 acre organic herb farm (catnip, echinacea, feverfew, nettle, scullcap) plus wild collected herbs
42 Warner Road, Trout Lake, WA 98650 USA
TEL: 509-395-2025
FAX: 509-395-2645
E-mail: herbs@troutlakefarm.com
URL: http://www.troutlakefarm.com/

US NUTRACEUTICALS, LLC
Wild collected black cohosh, goldenseal, saw palmetto, slippery elm, witch hazel
2751 Nutra Lane , Eustis, Florida 32726 USA
TEL: 352-357-2004
FAX: 352-483-2095
E-mail: usncustomerservice@usnutra.com
URL: http://www.usnutra.com/

VAN DRUNEN FARMS
Certified organic and conventionally farmed cranberry, fennel, garlic, mint, orange peel, parsley, rosemary, sage, thyme
300 West 6th St., Momence, Illinois 60954 USA
TEL: 815 472-3100
FAX: 815 472-3850
URL: http://www.vandrunenfarms.com/

WISCONSIN CULTIVATED GOLDENSEAL
Goldenseal root farm
2204 9th Avenue
Athens, WI 54411 USA
TEL: 715.257.7899
E-mail: golden_seal@hotmail.com

WISCONSIN GINSENG & HERB CO-OP
Cooperative of 90 American ginseng farmers
P.O. Box 581, Marathon, WI 54448 USA
TEL: 715-443-3723
FAX: 715-443-3723
E-mail: info@ginsengherbco-op.com
URL: http://www.ginsengherbco-op.com/

YAKIMA CHIEF, INC. HOP GROWERS
Cooperative of hop farmers
555 West South Hill Road;
P.O. Box 209; Sunnyside, WA 98944
TEL: 509 839-9022 / FAX: 509 839-5570
http://www.yakimachief.com/about/history.html

YOUNG LIVING FARM
1,600 acre organic herb farm (lavender, lemon balm, peppermint, clary sage)
Mona, Utah and St. Maries, Idaho
http://youngliving.younglivingworld.com/MainFrame.asp?BodyFrame=business/profile_main.asp

WHOLESALE DISTRIBUTERS

ACTA HEALTH PRODUCTS
Botanical Extracts
1131 N. Fair Oaks, Sunnyvale, CA 94089 USA
TEL: 415.459.4393
FAX: 415.459.3491
E-mail: inquiry@ActaProducts.com
URL: http://www.actaproducts.com/

AMERICAN INGREDIENTS, INC.
Botanical Raw Materials & Extracts
2929 East White Star Avenue
Anaheim, CA 92806-2628 USA
TEL: 714.630.6000
FAX: 714.630-6655
E-mail: Sales@amer-ing.com
URL: http://www.amer-ing.com/index.htm

AMERICAN MERCANTILE CORPORATION
Botanical Raw Materials & Extracts
1310 Farmville Road, Memphis, TN 38122-1001
TEL: 901-454-1900
FAX: 901-454-0207
URL: http://www.americanmercantile.com/

ASHANINKA IMPORTS INC.
Botanical Raw Materials & Extracts from
Brazil, Mexico, and Peru
P.O. BOX 770065, MIAMI FL 33177 0065 USA
TEL: 305 971 3008
FAX: 305 971 3224
E-mail: info@ashaninka.com
http://www.ashaninka.com/raw/rawmat/rawmaterials.html

ASIA NATURAL PRODUCTS, INC.
Chinese Botanical Raw Materials
590 Townsend St., San Francisco CA 94103 USA
TEL: 415-522-1668
FAX: 415-522-1988
E-mail: info@drkangformulas.com
http://www.drkangformulas.com/herbfiles/herbs.htm

AYUSH HERBS, INC.
Indian Botanical Raw Materials & Extracts
[from Ayush Herbs Pvt Ltd., H.P India]
2115 112th Avenue NE,
Bellevue,Washington 98004 USA
TEL: 425 637-1400
FAX: 425 451-2670
URL: http://www.ayush.com/

BDS NATURAL PRODUCTS
Botanical Raw Materials & Extracts
1904 ½ East Dominguez Street
Carson, California 90810 USA
TEL: 310.518.2227
FAX: 310.518.2577
E-mail: info@bdsnatural.com
URL: http://www.bdsnatural.com

BI NUTRACEUTICALS
Botanical Raw Materials & Extracts
2550 El Presidio Street
Long Beach, CA, 90810 USA
Tel: 310.669.2100
Fax: 310.637.3644
E-mail: botan@botanicals.com
URL: http://www.botanicals.com/

BRUCIA PLANT EXTRACTS
Large Range of Botanical Extracts
3855 Dividend Drive
Shingle Springs, CA 95682 USA
TEL: 530-676-2774
FAX: 530-676-0574
URL: http://www.brucia.com/index.html

CHEMCO INDUSTRIES, INC.
OptiPure® Brand Botanical Extracts
6984 Bandini Blvd.
Los Angeles, CA 90040 USA
TEL: 323.721.8300
FAX: 323.721.9600
URL: http://www.optipure.com/

COGNIS CORP USA
Botanical Extracts and Derivatives
5051 Estecreek Drive
Cincinnati, OH 45232-1446 USA
TEL: 513-482-3000
FAX: 513-482-5503
URL: http://www.cognis.com/cognis.html

ESSENTIALLY PURE INGREDIENTS
Artichoke Extract, Garlic, Kava Extract, Soy
21411 Prairie Street
Chatsworth, CA 91311 USA
TEL: 818-739-6046
FAX: 818-739-6042
E-mail: Customerservice@essentiallypure.com
URL: http://www.essentiallypure.com/index.html

EXTRACTS PLUS, INC.
US distributor of extracts made by Emil
Flachsmann AG of Switzerland
3275 Corporate View Drive
Vista, CA 92083 USA
TEL: 760 597-0200
FAX:760 597-0734
URL: http://www.extractsplus.com/

FAMARCO LIMITED, INC.
B&K INTERNATIONAL
Botanical Raw Materials
1381 Air Rail Avenue
Virginia Beach, VA 23455 USA
TEL: 757 460-3573
FAX: 757 460-2621
E-mail: info@famarco.com
URL: http://www.famarco.com/catalog/

FMALI HERB, INC.
Botanical Raw Materials
831 Almar Ave., Santa Cruz, CA 95060 USA
TEL: 831 423-7913
FAX: 831 429-5173

FOREST TRADE, INC. USA
Certified Organic Botanical Raw Materials
41 Spring Tree Road
Brattleboro, VT 05301 USA
TEL: 802.257.9157
FAX: 802.257.7619
E-mail: info@forestrade.com
URL: http://www.forestrade.com/

GCI NUTRIENTS, INC.
Botanical Raw Material & Extracts (Chinese, Indian Ayurvedic, South American)
1501 Adrian Road
Burlingame, CA USA
TEL: 650 697-4700
FAX: 650 697-6300
URL:http://www.gcinutrients.com/Product/Index.html

GENI, INC.
Ayurvedic Herbal Extracts
1250 E. Conner Street
Noblesville, IN, 46060 USA
Tel: 317.776.3600
Fax: 317.776.3650
E-mail: info@geniherbs.com
URL: http://www.geniherbs.com/

GEORGE UHE COMPANY
Essential oils & natural extracts
12 Route 17 North, PO Box 970
Paramus, NJ 07653-0970 USA
TEL: 201 843-4000
FAX: 201 843-7517
E-mail: email: global@uhe.com
URL: http://www.uhe.com

GILROY FOODS
Capsicum, Garlic, Onion, Black Pepper
1350 Pacheco Pass Hwy.
Gilroy, CA 95020 USA
TEL: 408 289 - 5060
FAX: 408 846 - 3073
E-mail: purchasing@gilroyfoods.com
URL: http://www.gilroyfoods.com/index.html

GLOBAL MARKETING ASSOCIATES
Chinese & European Botanical Extracts
3536 Arden Road
Hayward, CA 94545-3908 USA
TEL: 510.887.2462
FAX: 510.887.1882
E-mail: global@gmaherbs.com
URL: http://www.gmaherbs.com/

GOOD HOPE BOTANICALS, INC.
Botanical Raw Materials
1805-B South McDowell Blvd, Petaluma, CA 94954 USA
TEL: 707-763-2809
FAX: 707-763-2832
E-mail: kim@goodhopebotanicals.com
URL: http://www.goodhopebotanicals.com/

G.S. HALY COMPANY
Tea leaf (green, black, oolong)
156 Arch Street
Redwood City CA 94062 USA
TEL: 650 367 7601
FAX: 650 367 0291
E-mail: gshaly@pacbell.net

GUAYAKI SUSTAINABLE RAINFOREST PRODUCTS
Certified organic maté leaf
684 Clarion Court
San Luis Obispo, CA 93401 USA
TEL: 805 546-8111
FAX: 805 545-8111
E-mail: info@guayaki.com
URL: http://www.guayaki.com

HERB TRADE CERTIFIED ORGANICS
Certified Organic Botanical Raw Materials
12101 Moya Blvd.
Reno, Nevada 89506-2600 USA
TEL: 973.817.8500
FAX: 775.971.8551
E-mail: info@organicherbtrade.com
URL: http://www.geocities.com/organicherbtrade/

KALUSTYAN CORPORATION
Botanical Raw Materials
855 RAHWAY AVENUE
UNION, NEW JERSEY 07083
TEL: 908-688-6111
FAX: 908-688-4415
URL: http://www.kalustyan.com/

K.H.L. FLAVORS INC.
Botanical Raw Materials
59-25 63rd Street
Maspeth, New York 11378 USA
TEL: 718.894.8200
FAX: 718.894.1618
E-mail: PLANDES1@aol.com
URL: None

MAFCO WORLDWIDE CORPORATION USA
Licorice root & extracts
Third Street & Jefferson Avenue
Camden New Jersey. 08104, USA
TEL: 856 964-8840
FAX: 856 541-8925
E-mail: jswanson@mafcolicorice.com
URL: http://www.mafcolicorice.com/

MARTIN BAUER, INC.
Extracts (by Finzelberg & Plantextrakt)
[Headquarters: Martin Bauer GmbH & Co. KG,
Dutendorfer Strasse 5-7, 91487
Vestenbergsgreuth Germany]
2 Sylvan Way
Parsippany, New Jersey 07054-3806 USA
TEL: 973.683.1411
FAX: 973.683.0177
E-mail: info@plantextrakt-inc.com
URL: http://www.martin-bauer.com/

MB NORTH AMERICA, INC.
Botanical Raw Materials
[Headquarters: MB Holding GmbH & Co. KG,
Dutendorfer Strasse 5-7, 91487
Vestenbergsgreuth Germany]
2780 Skypark Drive, Suite 225
Torrance, California 90505 USA
TEL: 310.534.7100 / FAX: 310.534.8001
E-mail: info@mb-northamerica.com
URL: http://www.mb-holding.com/

MOTHERLAND HERB-PHARMACEUTICAL, INC.
Chinese Botanical Extracts
1871 Wright Avenue
La Verne, California 91750 USA
TEL: 909 596-8882
FAX: 909 596-8870
Email: info@motherlandusa.com
URL: http://www.motherlandusa.com/index.htm

ORCAS INTERNATIONAL, INC.
Ayurvedic & Chinese herbal extracts
230 Route 206, Building 4, Suite 3
Flanders, New Jersey 07836 USA
TEL: 973.252.7100
FAX: 973.252.7104
E-mail: orcas@orcas-intl.com
URL: http://www.orcas-intl.com

PHARMACHEM LABORATORIES, INC.
Botanical Powders & Extracts
265 Harrison Avenue
Kearny, NJ 07032 USA
TEL: 201 246-1000
FAX: 201 246-8105
E-mail: sales@pharmachemlabs.com
URL: http://www.pharmachemlabs.com/

PHARM EAST, INC.
Chinese Botanical Extracts
326 N. Stonestreet Ave., Suite 205
Rockville, MD 20850 USA
TEL: 301 610-5620
FAX: 301 610-5621
E-mail: mailto:info@pharmeast.com
URL: http://www.pharmeast.com/

PHARMLINE, INC.
Botanical Extracts
41 Bridge Street, PO Box 291
Florida, New York 10921 USA
TEL: 845-651-4443
FAX: 845-651-6900
E-mail: info@pharmlineinc.com
URL: http://www.pharmlineinc.com/

P.L. THOMAS & CO., INC.
Botanical Raw Materials & Extracts
119 Headquarters Plaza
Morristown, NJ 07960 USA
TEL: 973.984.0990
FAX: 973.984.5666
E-mail: info@plthomas.com
URL: http://plthomas.com/

QUALITY BOTANICAL INGREDIENTS, INC.
Botanical raw materials & extracts
Vegetable powders, beehive products
500 Metuchen Road
South Plainfield, NJ 07080 USA
TEL: 908 668-0088
FAX: 908 561-9682
E-mail: info@4qbi.com
URL: http://www.4qbi.com/

RFI INGREDIENTS
Botanical Raw Materials & Extracts
300 Corporate Drive, Suite 14
Blauvelt, NY 10913 USA
TEL: 845-358-8600
FAX: 845-358-9003
E-mail: rfi@rfiingredients.com
URL: http://www.rfiingredients.com/

SAMPAC ENTERPRISES
Chinese Botanical Raw Materials & Extracts
434 N. Canal St., Unit 16
South San Francisco, Ca. 94080 USA
TEL: 650 876-0808
FAX: 650 876-0338
URL: http://www.sampacent.com/

SAN FRANCISCO HERB & NATURAL FOOD CO.
Botanical Raw Materials
47444 Kato Road, Fremont, CA 94538 USA
TEL: 510.770.1215
FAX: 510.770.9021
E-mail: info@herbspicetea.com
http://www.herbspicetea.com/categories/hundred_pound_orders.html

STARWEST BOTANICALS
Botanical Raw Materials & Extracts
11253 Trade Center Drive
Rancho Cordova, CA 95742 USA
TEL: 916 853-9354
FAX: 916 853-9673
E-mail: info@starwest-botanicals.com

STAUBER PERFORMANCE INGREDIENTS
Botanical Raw Materials & Extracts
4120 N. Palm Street
Fullerton, CA 92835 USA
TEL: 714-441-3900
FAX: 714-441-3909
E-mail: sales@stauberusa.com
URL: http://www.stauberusa.com/

STRYKA BOTANICS CO., INC.
Botanical Raw Materials & Extracts
239 Homestead Rd
Hillsborough, NJ 08844 USA
TEL: 908 281-5577
FAX: 908 281-5392
E-mail: info@stryka.com
URL: http://www.stryka.com/

TRIARCO INDUSTRIES, INC.
Botanical Raw Materials & Extracts
400 Hamburg Turnpike
Wayne, New Jersey 07470
TEL: 973-942-5100
FAX: 973-942-8873
E-mail: info@triarco.com
URL: http://www.triarco.com/

TRINITY HERBS
Organic Botanical Raw Materials
PO Box 1001, Graton, CA 95444 USA
TEL: 707.824.2040
FAX: 707.824.2050
E_mail: info@trinityherb.com
URL: http://www.trinityherb.com/index.shtml

WHOLE HERB
Botanical Raw Materials
19800 8th Street East
Sonoma, CA 95476 USA
TEL: 707 935-1077
FAX: 707-935-3447.
URL: http://www.wholeherbcompany.com/

YERBA BOTANIKA, LLC
South American Botanicals & Extracts
3551 42nd Avenue South, Suite B108
St. Petersburg, Florida 33711 USA
TEL: 727.865.9280
FAX: 727.866.9442
E-mail: info@YerbaBotanika.com
URL: http://www.YerbaBotanika.com

APPENDIX III TRADE ASSOCIATIONS

AMERICAN HERBAL PRODUCTS ASSOCIATION (AHPA)
8484 Georgia Ave., Suite 370,
Silver Spring, MD 20910 USA
Tel: 301 588-1171
Fax: 301 588-1174
E-mail: ahpa@ahpa.org
URL: http://www.ahpa.org/

AMERICAN SPICE TRADE ASSOCIATION (ASTA)
2025 M Street, NW, Suite 800
Washington, DC 20036 USA
TEL: 202-367-1127
FAX: 202-367-2127
E-mail: info@astaspice.org
URL: http://www.astaspice.org/

CONSULTANTS ASSOCIATION FOR THE NATURAL INDUSTRY (CANI)
P.O. Box 689, Clovis, CA, 93613 USA
Tel: 559-325-7192
Fax: 559-325-7195
E-mail: info@cani-consultants.com
URL: http://www.cani-consultants.com/

COSMETIC, TOILETRY AND FRAGRANCE ASSOCIATION (CTFA)
1101 17th St., NW, Suite 300
Washington, DC 20036
TEL: 202 331-1770
FAX: 202 331-1969
URL: http://www.ctfa.org/

COUNCIL FOR RESPONSIBLE NUTRITION
1828 L Street, NW, Washington, DC, 20036
Tel: 202-776-7929
Fax: 202-872-9594
E-mail: webmaster@crnusa.org
URL: http://www.crnusa.org/

GREAT PLAINS HERB GROWERS ASSOCIATION
908 West 20th Terrace
Lawrence, Kansas 66047 USA
TEL: 785.841.9241
FAX: 785.841.4975
E-mail: herbgrowers@sunflower.com
http://www.kansasruralcenter.org/heartland/greatplains.htm

HERB GROWING & MARKETING NETWORK
E-mail: herbworld@aol.com
URL: http://www.herbworld.com/newgp/index.htm

INDEPENDENT COSMETIC MANUFACTURERS AND DISTRIBUTORS (ICMAD)
1220 W. Northwest Highway
Palatine, IL 60067-1803 USA
TEL: 847 991-4499
FAX: 847 991-8161
E-mail: info@icmad.org
URL: http://www.icmad.org/home.asp

INTERNATIONAL ALLIANCE OF DIETARY/FOOD SUPPLEMENTS ASSOCIATIONS (IADSA)
rue de l' Association 50
B-1000 Brussels, Belgium
Tel: +32 2 209 1155
Fax: +32 2 223 3064
E-mail: secretariat@iadsa.be
URL: http://www.iadsa.org/

INTERNATIONAL ASSOCIATION OF COLOR MANUFACTURERS
1620 I Street, NW, Suite 925
Washington, DC 20006 USA
TEL: 202 293-5800
FAX: 202 463-8998
E-mail: info@iacmcolor.org
URL: http://www.iacmcolor.org/

INTERNATIONAL FEDERATION OF ESSENTIAL OILS AND AROMA TRADES (IFEAT)
6 Catherine Street, London, WC2B 5JJ, UK
TEL: +44 20 7836 2460
FAX: +44 20 7836 0580
E-mail: IFEATAdministrator@fdf.org.uk
URL: http://www.ifeat.org/

INTERNATIONAL HERB ASSOCIATION (IHA)
P.O. Box 5667
Jacksonville, FL 32247-5667 USA
URL: http://www.iherb.org/

ORGANIC TRADE ASSOCIATION (OTA)
PO Box 547-Greenfield-MA-01302
60 Wells Street-Greenfield-MA-01301
TEL: 413-774-7511
FAX: 413-774-6432
E-mail: info@ota.com
URL: http://www.ota.com/

CROP-SPECIFIC TRADE ASSOCIATIONS

AMERICAN JOJOBA ASSOCIATION
c/o Arizona Dept. of Agriculture
1688 West Adams
Phoenix, AZ 08007 USA
TEL: 602 542-0968
FAX: 602 542-0969

ASSOCIATION FOR HAWAIIAN 'AWA (kava)
P.O. Box 636
Pepe'ekeo, HI 96783 USA
TEL: 808/969-7079

CAPE COD CRANBERRY GROWERS' ASSOCIATION (CCCGA)
3203-B Cranberry Highway
East Wareham, MA 02538 USA
URL: http://www.cranberries.org/

GINSENG BOARD OF WISCONSIN
TEL: 715-845-7300
E-mail: ginseng@ginsengboard.com
URL: http://www.ginsengboard.com/

HOP GROWERS OF AMERICA
P.O. Box 9218
Yakima, WA 98909 USA
TEL: 509.248.7043
FAX: 509.248.7044
E-mail : doug@usahops.org
URL: http://www.usahops.org/english/index.asp

IDAHO MINT GROWERS ASSOCIATION
55 SW 5th Ave #100
Meridian, ID 83642 USA

INTERNATIONAL JOJOBA EXPORT COUNCIL
4250 North Civic Center Blvd., 4th Floor, Scottsdale, Arizona 85251-3900
TEL: 480-545-7000 x115
E-mail: info@ijec.net
URL: http://www.ijec.net/

MONTANA MINT GROWERS ASSOCIATION
PO Box 2002
Kalispell, MT 59903-2002 USA
URL: http://www.montanamint.addr.com/

SEQUIM LAVENDER GROWER'S ASSOCIATION
55 Parrish Road
Sequim, WA 98382 USA
TEL: 360-681-8563
E-mail: morningmysts@hotmail.com

TEA ASSOCIATION OF THE USA
TEA COUNCIL OF THE USA
420 Lexington Ave, New York, NY 10170 USA
TEL: 212-986-9415
FAX: 212-697-8658
E-mail: info@teausa.com
URL: http://www.teausa.com/

THE INTERNATIONAL ALOE SCIENCE COUNCIL
415 East Airport Freeway Suite 365
Irving, Texas 75062 USA
TEL: 972 258-8772
FAX: 972 258-8777
E-Mail: iasc@airmail.net
URL: http://www.iasc.org/iasc.html

WASHINGTON MINT GROWERS ASSOCIATION
10542 Division South Road
Othello, Washington 99344 USA

WISCONSIN STATE CRANBERRY GROWERS ASSOCIATION (WSCGA)
PO Box 365, Wisconsin Rapids, WI 54495-0365
TEL: 715-423-2070
FAX: 715-423-0275
E-mail: wiscran@wctc.net
URL: http://www.wiscran.org/

APPENDIX IV TRADE FAIRS IN THE US

ALL THINGS ORGANIC
CONFERENCE AND TRADE SHOW
Organic Trade Association
60 Wells Street, P.O. Box 547
Greenfield, MA 01302, U.S.A.
TEL: 413-774-7511
FAX: 413-774-6432
Email: info@ota.com
URL: http://www.atoexpo.com/

AROMA HERB
CONFERENCE AND TRADE SHOW
International Aromatherapy and Herb Association (IAHA)
TEL: 602.938.4439
E-mail: aromaherbshow@hotmail.com
http://www.aromaherbshow.com/index_035.htm

BIOFACH AMERICA ORGANIC PRODUCTS EXPO
New Hope Natural Media
1401, Pearl Street, Boulder, CO 80302 USA
TEL: 303.998 9266
FAX: 303.998 9525
E-mail: ssilverman@newhope.com
http://www.nuernbergglobalfairs.com/va/BFA_03/e/index.html

INTERNATIONAL COSMETIC EXPO (ICE)
Allured Publishing Group
362 S. Schmale Road
Carol Stream, IL 60188-2787 USA
TEL: 630-653-2155
URL: http://209.196.17.253/ME2/Sites/default.asp

INTERNATIONAL SYMPOSIUM ON NATURAL COLORANTS FOR FOOD, NUTRACEUTICALS, BEVERAGES & COSMETICS
The Hereld Trust
200 Leader Hill Drive, Hamden CT 06517 USA
FAX: 203.281.6766

NATURAL PRODUCTS EXPO EAST (Wash DC)
NATURAL PROUDCTS EXPO WEST (Anaheim)
New Hope Natural Media
1401, Pearl Street, Boulder, CO 80302 USA
TEL: 303.998 9266
FAX: 303.998 9525
E-mail: tradeshows@newhope.com

NUTRACON SUPPLY EXPO
New Hope Natural Media
1401, Pearl Street, Boulder, CO 80302 USA
TEL: 303.998 9266
FAX: 303.998 9525
E-mail: tradeshows@newhope.com
URL: http://www.nutraconference.com/

SUPPLY SIDE EAST (New Jersey)
SUPPLY SIDE WEST (Nevada)
International Trade Show and Conference
Virgo Publishing - Health & Nutrition Division
P.O. BOX 40079, Phoenix, AZ 85067-0079 USA
URL: http://www.supplysideshow.com/

APPENDIX V TRADE PRESS

AHPA REPORT
THE OFFICIAL PUBLICATION OF THE AMERICAN HERBAL PRODUCTS ASSOCIATION
Monthly newsletter for AHPA members only
8484 Georgia Ave., Suite 370,
Silver Spring, MD 20910 USA
Tel: 301 588-1171
Fax: 301 588-1174
E-mail: ahpa@ahpa.org
URL: http://www.ahpa.org/

COSMETICS & TOILETRIES
362 South Schmale Road
Carol Stream, IL 60188 USA
TEL: 630 653-2155
FAX: 630 665-2699
URL:http://209.196.17.253/ME2/Audiences/default.asp

FDA— DIETARY SUPPLMENT / FOOD LABELING ELECTRONIC NEWSLETTER
A free electronic newsletter from the Food and Drug Administration's Office of Nutritional Products, Labeling, and Dietary Supplements (ONPLDS), in the Center for Food Safety and Applied Nutrition (CFSAN)
E-mail: FDA-DSFL@vm.cfsan.fda.gov
URL: http://www.cfsan.fda.gov/~dms/infonet.html

FUNCTIONAL FOODS & NUTRACEUTICALS THE OFFICIAL PUBLICATION OF NUTRACON / SUPPLY EXPO
New Hope Natural Media
1401 Pearl Street, Suite 200
Boulder, CO 80302 USA
Tel: 303.998.9126
Fax: 303.939.8440
E-mail: customerservice@newhope.com
URL: http://www.newhope.com/ffn/

FUNCTIONAL FOODNET
A free daily e-mail newsletter produced by the Food Safety Network at the University of Guelph, Dept. of Agriculture
Guelph, Ontario N1G 2W1 Canada
Tel: 519-824-4120 x2506
Fax: 519-763-8933
E-mail: dpowell@uoguelph.ca
URL: http://www.foodsafetynetwork.ca

GREAT PLAINS HERB GROWERS ASSOCIATION NEWSLETTER
Quarterly newsletter for herb growers
908 West 20th Terrace
Lawrence, Kansas 66047 USA
TEL: 785.841.9241
FAX: 785.841.4975
E-mail: herbgrowers@sunflower.com
URL:http://www.kansasruralcenter.org/heartland/greatplains.htm

HERBALGRAM—THE JOURNAL OF THE AMERICAN BOTANICAL COUNCIL
PO Box 144 345
Austin, TX 78714-4345 USA
Tel: 512-926-4900
Fax: 512-926-2345
E-mail: abc@herbalgram.org
URL: http://www.herbalgram.org/herbalgram/

HERBAL GREEN PAGES ONLINE
A service of the Herb Growing & Marketing Network, an herb industry trade association
E-mail: herbworld@aol.com
URL: http://www.herbworld.com/newgp/index.htm

HSC INDUSTRY NEWS
Daily Electronic Industry Newsletter for natural product industry executives
Health Strategy Consulting LLC, USA
319 Hope Street
Providence, Rhode Island 02906 USA
Tel: 401.270.0760
Fax: 401.272.0706
E-mail: aismail@health-strategy.com
URL: http://www.health-strategy.com/news.html

IADSA NEWSFLASH
International Alliance of Dietary/Food Supplements Associations (IADSA) monthly newsletter for members only
rue de l' Association 50
B-1000 Brussels, Belgium
Tel: +32 2 209 1155
Fax: +32 2 223 3064
E-mail: secretariat@iadsa.be
URL: http://www.iadsa.org/

JOURNAL OF HERBS, SPICES & MEDICINAL PLANTS
The Haworth Press, Inc., 10 Alice Street,
Binghamton, New York 13904-1580
Tel: 607 722 5857
Fax: 607 722 6362
E-mail: getinfo@haworthpressinc.com
URL:http://www.haworthpressinc.com/store/product.asp?sku=J044

MARKET NEWS SERVICE FOR MEDICINAL PLANTS & EXTRACTS
A quarterly report promoting international trade in medicinal plants & extracts with regional reviews including North America
International Trade Centre UNCTAD/WTO
Palais des Nations, CH-1211
Geneva 10, Switzerland
Tel: + 41 22 730 0111
Fax: + 41 22 733 4439
E-mail: itcreg@intracen.org
URL: http://www.p-maps.org/mns/medplants.php

NATURAL PRODUCTS INDUSTRY INSIDER
THE OFFICIAL MAGAZINE OF SUPPLYSIDE®
Virgo Publishing, Inc.
PO Box 40079, Phoenix, AZ 85067-0079 USA
Tel: 480.990.1101
Fax: 480.990.0819
URL: http://www.naturalproductsinsider.com

NATURAL PRODUCTS INDUSTRY INSIDER NEWSLETTER — Virgo Publishing, Inc.
A free e-mail newsletter.
PO Box 40079, Phoenix, AZ 85067-0079 USA
Tel: 480.990.1101
Fax: 480.990.0819
E-mail: NPI@vpico.com
URL: http://www.naturalproductsinsider.com

NEW FARM NEWSLETTER
Monthly free e-mail newsletter of the Rodale Institute featuring farmer-to-farmer know-how on the latest organic and regenerative practices for fruit, grain, herb and vegetable crops
URL: http://www.newfarm.org

NPI WATCH INDUSTRY NEWSLETTER
An e-mail newsletter of the Natural Products Industry Center (NPIcenter) providing raw materials and product information for natural products industry professionals
26910 Sierra Hwy, Suite 290
Santa Clarita, CA 91321 USA
Tel: 877.463.0110
E-mail: info@npicenter.com
URL: http://www.npicenter.com/index.asp

NUTRACEUTICALS WORLD
Serving the Dietary Supplement, Functional Food and Nutritional Beverages Industries
70 Hilltop Road,
Ramsey, NJ 07446 USA
Tel: 201-825-2552
Fax: 201-825-0553
E-mail: nutraceuticals@rodpub.com
URL: http://www.nutraceuticalsworld.com

NutraIngredients-usa.com Newsletter
Breaking News on Nutraceuticals & Supplements for North America
Novis, La Tour du Triangle
26 Allée Jules Milhau
34000 Montpellier, France
Tel: +33 4 99 52 28 70
Fax: +33 4 99 52 28 75
E-mail: info@NutraIngredients-usa.com
URL: http://www.nutraingredients-usa.com/

NUTRITION BUSINESS JOURNAL
Comprehensive market data and strategic analysis covering Dietary Supplements (vitamins, minerals, herbs & botanicals, sports nutrition), Natural/Organic Foods, Functional Foods, and Natural Personal Care.
4452 Park Boulevard, Suite 306
San Diego CA 92116 USA
Tel: (619) 295-7685 ext. 13
Fax: (619) 295-5743
Email: info@nutritionbusiness.com
URL: http://www.nutritionbusiness.com/

NUTRITIONAL OUTLOOK
The Manufacturer's Resource for Dietary Supplements & Healthy Foods and Beverages
11444 W. Olympic Blvd.
Los Angeles, CA 90064 USA
Tel: 310.445.4200
Fax: 310.445.4299
E-mail: feedback@nutritionaloutlook.com
URL: http://www.nutritionaloutlook.com

PERFUMER & FLAVORIST
362 South Schmale Road
Carol Stream, IL 60188 USA
TEL: 630 653-2155
FAX: 630 665-2699
URL: http://www.perfumerflavorist.com/ME2/Audiences/default.asp

THE ROSE SHEET—TOILETRIES, FRAGRANCES & SKIN CARE
F-D-C Reports
5550 Friendship Boulevard, Suite 1
Chevy Chase, MD 20815-7278 USA
TEL: 800 332-2181
FAX: 301 656-3094
URL: http://www.fdcreports.com/

THE TAN SHEET—NON-PRESCRIPTION PHARMACEUTICALS AND NUTRITIONALS
F-D-C Reports
5550 Friendship Boulevard, Suite 1
Chevy Chase, MD 20815-7278 USA
TEL: 800 332-2181
FAX: 301 656-3094
URL: http://www.fdcreports.com/

APPENDIX VI TRADE SUPPORT ORGANIZATIONS

CROP-SPECIFIC:

FAR WEST SPEARMINT OIL ADMINISTRATIVE COMMITTEE
100 N. Fruitland, Suite B,
Kennewick, WA 99336 USA
TEL: 509.585.5460
FAX: 509.585.2671
URL: **http://www.farwestspearmint.org/**

GINSENG BOARD OF WISCONSIN
TEL: 715-845-7300
E-mail: ginseng@ginsengboard.com
URL: http://www.ginsengboard.com/

HOP ALLIANCE
912 Coach Court, Yakima Wa. 98908 USA
TEL: 509-969-0092
FAX: 509-965-0719
E-mail dbakos@aol.com

IDAHO MINT COMMISSION
URL: http://www.idahomint.org/

OREGON HOP COMMISSION
20209 Main Street, P.O. Box 9
St. Paul, OR 97137 USA
TEL: 503-633-2922
FAX: 503-633-2924
E-mail: cchop@oda.state.or.us
URL: http://hop.oda.state.or.us/ohc.html

OREGON MINT COMMISSION
PO Box 3366, Salem 97302-0366 USA
TEL: 503-364-2944

THE CRANBERRY MARKETING COMMITTEE
245R Main Street, Wareham, MA 02571 USA
TEL: 508 291-1510
FAX: 508 291-1511
E-mail:cranberry.marketing@verizon.net
URL: http://www.uscranberries.com/

SAW PALMETTO BERRIES BONDED DEALERS FLORIDA DEPARTMENT OF AGRICULTURE
http://www.florida-agriculture.com/bond/dealers.htm

WASHINGTON HOP COMMISSION
504 N. Naches Ave. Suite 11
Yakima, WA 98901
TEL: 509 453-4749
FAX: (509) 457-8561
URL:http://www.wnpa.com/foodsafetyforum/ag_c_c/hop.html

WASHINGTON MINT COMMISSION
PO Box 2111, Pasco, Washington 99302 USA

WISCONSIN DEPARTMENT OF AGRICULTURE:

Ginseng Dealer/Grower Registration & Certification
http://www.datcp.state.wi.us/arm/agriculture/crops/specialty-products/ginseng.html

Market Orders Ginseng Board of Wisconsin
http://www.datcp.state.wi.us/mktg/agriculture/crops/market-orders/ginsengbrd.html

Market Orders Cranberry Board of Wisconsin
http://www.datcp.state.wi.us/mktg/agriculture/crops/market-orders/cranbrd.html

Market Orders Mint Board of Wisconsin
http://www.datcp.state.wi.us/mktg/agriculture/crops/market-orders/mintbrd.html

FEDERAL GOVERNMENT:

FOREIGN AGRICULTURAL SERVICE (FAS) EXPORTING / BUYING ORGANIC PRODUCTS
E-mail: stephanie.riddick@fas.usda.gov
URL: http://www.fas.usda.gov/agx/organics/organics.html

FOREIGN AGRICULTURAL SERVICE (FAS) U.S. TRADE INTERNET SYSTEM
URL: http://www.fas.usda.gov/ustrade/

MARKET ACCESS PROGRAM (MAP)
UNITED STATES DEPARMENT OF AGRICULTURE (USDA), Foreign Agricultural Service (FAS),
Marketing Operations Staff, Box 1042
1400 Independence Avenue S.W.
Washington, DC 20250-1042 USA
TEL: 202 720-4327
URL: http://www.fas.usda.gov/mos/programs/mapprog.html

OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE
URL: http://www.ustr.gov/

U.S. CENSUS BUREAU FOREIGN TRADE STATISTICS
http://www.census.gov/foreign-trade/www/

U.S. DEPARTMENT OF AGRICULTURE FOREIGN AGRICULTURAL SERVICE (FAS)
URL: http://www.fas.usda.gov/default.htm

U.S. GOVERNMENT EXPORT PORTAL
URL: http://www.export.gov/

U.S. TRADE QUICK-REFERENCE TABLES
http://www.ita.doc.gov/td/industry/otea/trade-detail/

INTERNATIONAL:

INTERNATIONAL TRADE CENTRE (ITC) UNCTAD/WTO
Palais des Nations, CH-1211
Geneva 10, Switzerland
Tel: + 41 22 730 0111
Fax: + 41 22 733 4439
E-mail: itcreg@intracen.org
URL: http://www.p-maps.org/mns/medplants.php

APPENDIX VII OTHER USEFUL ADDRESSES

BUYERS GUIDES

ALLURED'S FLAVOR AND FRAGRANCE MATERIALS ONLINE
A comprehensive international directory of materials used in the creation of flavors and fragrances, including all known suppliers
URL: http://64.78.48.186/ffm/

AMERICAN HERBAL PRODUCTS ASSOCIATION MEMBERSHIP DIRECTORY / BUYERS' GUIDE
American Herbal Products Association
8484 Georgia Avenue, Suite 370
Silver Spring, MD 20910 USA
TEL: 301.588.1171
FAX: 301.588.1174
URL: http://www.ahpa.org

BUYERS GUIDE TO SUPPLIERS OF NUTRACEUTICALS AND FUNCTIONAL FOOD INGREDIENTS
Institute of Food Technologists
This Buyer's Guide includes the 900 companies that exhibited at IFT FOOD EXPO®. Company descriptions, products, and full contact information are included.
URL: http://209.242.196.12/

BUYER'S GUIDE SUPPLEMENT TO NATURAL PRODUCTS INDUSTRY INSIDER THE OFFICIAL MAGAZINE OF SUPPLYSIDE®
Virgo Publishing, Inc.
PO Box 40079, Phoenix, AZ 85067-0079 USA
Tel: 480.990.1101
Fax: 480.990.0819
http://www.naturalproductsinsider.com/ibg/

CTFA INTERNATIONAL BUYERS GUIDE
Comprehensive, worldwide listing of cosmetic raw materials and their suppliers
CTFA Publications Orders
TEL: 301-953-2614
FAX: 301-206-9789
E-mail publications@ctfa.org
URL: http://www.ctfa-buyersguide.org/pls/ctfa/bg.query

HERBAL GREEN PAGES ONLINE
Herb Growing & Marketing Network
E-mail: herbworld@aol.com
URL: http://www.herbworld.com/newgp/index.htm

NUTRACEUTICALS WORLD INTERNATIONAL BUYERS' GUIDE
Serving the Dietary Supplement, Functional Food and Nutritional Beverages Industries
70 Hilltop Road, Ramsey, NJ 07446 USA
Tel: 201-825-2552
Fax: 201-825-0553
E-mail: nutraceuticals@rodpub.com
http://www.nutraceuticalsworld.com/BuyersGuide/index.htm

NUTRITIONAL OUTLOOK BUYERS GUIDE
The Manufacturer's Resource for Dietary Supplements & Healthy Foods and Beverages
11444 W. Olympic Blvd.
Los Angeles, CA 90064 USA
Tel: 310.445.4200
Fax: 310.445.4299
E-mail: feedback@nutritionaloutlook.com
URL: http://www.nutritionaloutlook.com

ORGANIC TRADE ASSSOCIATION'S ORGANIC EXPORT DIRECTORY
PO Box 547-Greenfield-MA-01302
60 Wells Street-Greenfield-MA-01301 USA
TEL: 413-774-7511
FAX: 413-774-6432
E-mail: info@ota.com
http://www.ota.com/online%20directory/ed_home.htm

THE ORGANIC PAGES NORTH AMERICAN RESOURCE DIRECTORY
PO Box 547-Greenfield-MA-01302
60 Wells Street-Greenfield-MA-01301 USA
TEL: 413-774-7511
FAX: 413-774-6432
E-mail: info@ota.com
http://www.ota.com/online%20directory/Directory%20nest.htm

ENDANGERED PLANTS & SUSTAINABILITY ORGANIZATIONS

COMMITTEE ON THE STATUS OF ENDANGERED WILDLIFE IN CANADA
COSEWIC Secretariat
c/o Canadian Wildlife Service, Environment Canada, Ottawa, Ontario K1A 0H3
TEL: 819 953-3215
FAX: 819 994-3684
E-mail: cosewic/cosepac@ec.gc.ca
URL: http://www.cosewic.gc.ca/index.htm

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA (CITES)
International Environment House
15, chemin des Anémones, CH-1219
Châtelaine-Geneva, Switzerland
TEL: + 41 22 917 8139
FAX: + 41 22 797 3417
E-mail: cites@unep.ch
URL: http://www.cites.org/

NATIONAL CENTER FOR THE PRESERVATION OF MEDICINAL PLANTS
33560 Beech Grove Rd. Rutland, OH 45775 USA
TEL: 740-742-4401
FAX: 740-742-8303
URL: http://www.ncpmh.org

PLANT CONSERVATION ALLIANCE, MEDICINAL PLANT WORKING GROUP (MPWG)
4401 N. Fairfax Drive, Room 750
Arlington, VA 22203 USA
E-mail: plant@plantconservation.org
URL:http://www.nps.gov/plants/medicinal/workinggroup.htm

RAINFOREST ALLIANCE SUSTAINABLE BOTANICALS PROGRAM
665 Broadway, Suite 500
New York, NY 10012 USA
TEL: 212.677.1900
E-mail: canopy@ra.org
URL: http://www.rainforest-alliance.org/news/archives/news/news44.html

TRAFFIC International
219a Huntingdon Rd
Cambridge, CB3 ODL, UK
TEL: +44 1223 277427 / FAX: +44 1223 277237
E-mail: traffic@trafficint.org
URL: http://www.traffic.org/

UNITED PLANT SAVERS (UpS)
PO Box 77, Guysville, OH 45735 USA
TEL: 740 662-0041
FAX: 740 662.0242
E-mail: info@unitedplantsavers.org
URL: http://unitedplantsavers.org/

UNITED STATES FISH & WILDLIFE SERVICE ENDANGERED SPECIES PROGRAM
http://endangered.fws.gov/

FAIR TRADE ORGANIZATIONS

GLOBAL EXCHANGE FAIR TRADE PROJECT
Fair Trade Teas, Coffees, Chocolates
110 Capp Street, Second Floor
San Francisco CA 94110 USA
TEL: 415-553-4412
E-mail: storemaster@globalexchange.org
http://www.globalexchange.org/stores/producers/

TRANS FAIR USA
Certification for Maté leaf, Tea leaf, Coffee
1611 Telegraph Avenue, Suite 900
Oakland, CA 94612 USA
TEL: 510.663.5260
FAX: 510.663.5264
E-mail: info@transfairusa.org
URL: http://www.transfairusa.org

HERBAL RESEARCH AND EDUCATION ORGANIZATIONS

AMERICAN BOTANICAL COUNCIL (ABC)
PO Box 144 345
Austin, TX 78714-4345 USA
Tel: 512-926-4900
Fax: 512-926-2345
E-mail: abc@herbalgram.org
URL: http://www.herbalgram.org/

AMERICAN HERBALISTS GUILD (AHG)
1931 Gaddis Road
Canton, GA 30115 USA
TEL: 770 751-6021
FAX: 770 751-7472
E-mail: ahgoffice@earthlink.net
URL: http://www.americanherbalistsguild.com/

AMERICAN NUTRACEUTICAL ASSOCIATION
5120 Selkirk Dr, Suite 100
Birmingham, AL 35242 USA
TEL: 205-980-5710
Fax: 205-991-9302
E-mail: info@ana-jana.org
URL: http://www.americanutra.com/

AROMATIC PLANT PROJECT
P.O. Box 225336
San Francisco, CA 94122-5336 USA
TEL: 415 564-6785
FAX: 415 564-6799
E-mail: Info@aromaticplantproject.com
URL: http://www.aromaticplantproject.com/

BOTANICAL SOCIETY OF AMERICA (BSA)
PO Box 299, St. Louis, MO 63166-0299
TEL: 314-577-9566
FAX: 314-577-9515
E-mail: bsa-manager@botany.org
URL: http://www.botany.org/

DIETARY SUPPLEMENT EDUCATION ALLIANCE™ (DSEA)
URL: http://www.supplementinfo.org/

EPHEDRA EDUCATION COUNCIL (EEC)
2000 K St., NW, Suite 801
Washington, DC 20006 USA
E-mail: Richard@ephedrafacts.com
URL: http://www.ephedrafacts.com/

HERB RESEARCH FOUNDATION (HRF)
4140 15th St., Boulder, CO 80304 USA
TEL: 303 449-2265
FAX: 303 449-7849
URL: http://www.herbs.org/

INTERNATIONAL COUNCIL FOR MEDICINAL AND AROMATIC PLANTS (ICMAP)
51 Boulevard de Montmorency
F-75016 Paris, France
E-mail: info@icmap.org
URL: http://www.icmap.org/

MINT INDUSTRY RESEARCH COUNCIL
P.O. Box 971
Stevenson, WA 98648
E-mail: mirc@gorge.net

NATIONAL INSTITUTES OF HEALTH OFFICE OF DIETARY SUPPLEMENTS
6100 Executive Blvd., Room 3B01, MSC 7517
Bethesda, Maryland 20892-7517 USA
TEL: 301 435-2920
FAX: 301 480-1845
E-mail: ods@nih.gov
URL: http://dietary-supplements.info.nih.gov/

SOCIETY FOR MEDICINAL PLANT RESEARCH
[Gesellschaft für Arzneipflanzenforschung
Emmeringerstr. 11, D - 82275 Emmering]
TEL: +49/8141/613749
FAX: +49/8141/613749
E-mail: GA-Secretary@t-online.de
URL: http://www.ga-online.org/Welcome.html

TRADITIONAL MEDICINE (TRM) ESSENTIAL DRUGS AND MEDICINES POLICY (EDM)
World Health Organization (WHO)
CH-1211 Geneva 27 Switzerland
FAX: +41 22 791 47 30
E-mail: trm@who.int
URL: http://www.who.int/medicines/organization/trm/orgtrmmain1.shtml

World Health Organization (WHO) Collaborating Centre for Traditional Medicine (TRM) — National Center for Complementary and Alternative Medicine
NCCAM Clearinghouse
P.O. Box 7923, Gaithersburg, MD 20898
TEL: 301-519-3153 / FAX: 866-464-3616
E-mail: info@nccam.nih.gov
URL: http://nccam.nih.gov/

REGULATORY LINKS

U.S. DEPARTMENT OF AGRICULTURE:

Imported Organic Agricultural Products
http://www.ams.usda.gov/nop/NOP/TradeIssues/importedorganic.html

National Organic Program (NOP)
http://www.ams.usda.gov/nop/indexIE.htm

U.S. FEDERAL TRADE COMMISSION:

Dietary Supplement Advertising Guide
http://www.ftc.gov/bcp/conline/pubs/buspubs/dietsupp.htm

U.S. FISH & WILDLIFE SERVICE:

American Ginseng Export Program
http://international.fws.gov/animals/ginindx.html

Exporting Goldenseal Rhizome
http://international.fws.gov/pdf/go.pdf

The Endangered Species Program
http://endangered.fws.gov/

U.S. Plant Species listed in the CITES Appendices
http://international.fws.gov/animals/plantpro.html

U.S. FOOD AND DRUG ADMINISTRATION:

Color Additives Exempt from Certification
http://www.access.gpo.gov/nara/cfr/waisidx_00/21cfr73_00.html

Cosmetic Good Manufacturing Practice Guidelines
http://www.cfsan.fda.gov/~dms/cos-gmp.html

Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Dietary Ingredients and Dietary Supplements
http://www.cfsan.fda.gov/~lrd/fr030313.html

Guidance for Industry—Cosmetics Processors and Transporters Cosmetics Security Preventive Measures Guidance
http://www.cfsan.fda.gov/~dms/secguid4.html

Guidance for Industry—Food Producers, Processors, and Transporters: Food Security Preventive Measures Guidance
http://www.cfsan.fda.gov/~dms/secguid6.html

Guidance for Industry—Importers and Filers: Food Security Preventive Measures Guidance
http://www.cfsan.fda.gov/~dms/secguid7.html

Imports and Exports Guidance
http://www.cfsan.fda.gov/~lrd/imports.html

Office of Cosmetics and Colors
http://www.cfsan.fda.gov/~dms/cos-toc.html

Office of Nutritional Products, Labeling, and Dietary Supplements
http://www.cfsan.fda.gov/~dms/supplmnt.html

The Bioterrorism Act of 2002
http://www.fda.gov/oc/bioterrorism/bioact.html

U.S. FOREST SERVICE

Info on Botanical Wild Collection Permits
http://www.fs.fed.us/

STANDARDS ORGANIZATIONS

AMERICAN HERBAL PHARMACOPOEIA
PO Box 66809, Scotts Valley, CA. 95067 USA
TEL: 831-461-6318
FAX: 831-475-6219
Email: ahpadmin@got.net
URL: http://www.herbal-ahp.org/

DEMETER ASSOCIATION, INC.
Britt Road, Aurora New York, 13026 USA
TEL: 315 364-5617
FAX: 315 364-5224
E-mail: Demeter@Baldcom.net
URL: http://www.demeter-usa.org/index.htm

NATIONAL ORGANIC STANDARDS BOARD
URL: http://www.ams.usda.gov/nosb/index.htm

NATURAL PRODUCTS EXPO EXHIBITOR STANDARDS
New Hope Natural Media
http://www.naturalproductexpo.com/standards/dsp_standards.cfm

NSF INTERNATIONAL
PO Box 130140
Ann Arbor, MI, 48113-0140 USA
TEL: 734-769-8010
FAX: 734-769-0109
E-mail: info@nsf.org
URL: http://www.nsf.org/

ORGANIC TRADE ASSOCIATION'S AMERICAN ORGANIC STANDARDS PROJECT
PO Box 547-Greenfield-MA-01302
60 Wells Street-Greenfield-MA-01301
TEL: 413-774-7511
FAX: 413-774-6432
E-mail: info@ota.com
URL: http://www.ota.com/AOSmainpage.htm

UNITED STATES PHARMACOPEIAL CONVENTION, INC.
12601 Twinbrook Parkway
Rockville, MD 20852 USA
TEL: 301-881-0666
E-mail: dietary@usp.org
URL: http://www.usp.org/

USP DIETARY SUPPLEMENT VERIFICATION PROGRAM
12601 Twinbrook PArkway
Rockville, MD 20852-1790 USA
TEL: 800-822-8772
URL: http://www.usp-dsvp.org/

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