CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

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Agenda Item 16 **CX/CAC 12/35/19**

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

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PROPOSAL FOR ESTABLISHMENT OF A SUBSIDARY BODY OF THE CODEX ALIMENTARIUS COMMISSION

(Prepared by India)

1) INTRODUCTION

Spices are dried seed, fruit, root or bark of a plant used as a food additive to enhance the flavour, as a preservative to stem growth and destruction of harmful organism. Most of the spices are used as food additives, ingredients and is widely used in culinary, nutritional, dietary and medicinal applications on account of its active ingredients. Spices like pepper, chillies, cardamom, dry ginger, turmeric, garlic, cumin, fennel, fenugreek, coriander, nutmeg etc., find its applications in whole, cracked, crushed, ground, dehydrated and in liquid forms.

Herbs are the aromatic leaves or leafy part of plants of low-growing shrubs used for seasoning and flavoring food and beverages, but not as a main ingredient. Examples are rosemary, parsley, marjoram, thyme, basil, oregano, and curry leaf.

Many of the spices are grown mainly in developing countries in Asia, South East Asia, Africa, Middle East, Caribbean Islands and Latin America. Herbs are grown world wide in the Mediterranean regions besides Europe, Asia, Far East America and Australian regions. Spices and aromatic herbs are bought in world wide due to its applications in sustaining human life. Since it addresses the health concerns of consumers across the world, it is important that fair trade practices should find its place in the marketing of Spices which will also benefit a wide spectrum of farming population.

2) Need of having a harmonized standard for spices, herbs and herbal formulations.

Harmonization of standards for spices under Codex will entail the following benefits for the various spices and herbs producing countries with respect to the following.

- Unified classification and harmonization of spices and herbs- taking advantage of the ISO standards or standards of any other international organization.
- ISO do not cover standards for value added products including herbal formulations.
- Ensures transparency, fair trade practices in trade and commerce in spices and health of consumers across the globe for spices are active food ingredients and additives.
- Eliminate trade barriers and trigger consultation and cooperation among producing countries.
- Harmonization of standards for facilitating trade.
- Capacity building in producing countries – Benefit developing countries producing spices.
- Help in identifying very unique varieties of spices and herbs with active properties and ingredients which can ensure better marketability and fair prices to the farmers.
- Codex platform add value on account of inter-Governmental consultations and gives the basics for enactment of legislations in required areas at the national level.

The changing face of international trade has led to the requirement by manufacturers and processors to have single, globally acceptable technical standards and conformance tests. Though there are international standards for spices, there is no common body that deals with product specific harmonised standards for whole spices, ground spices, spice mixes/ blends, spice oils and oleoresins, herbs and herbal formulations. The common body ideally should be one like Codex Alimentarius Commission which has inter-governmental participation from many of the spices producing and consuming countries round the world where discussions and formulations of themes and ideas could be done to formulate harmonized standards.

3) (a) Volume of production and consumption in individual countries and volume and pattern of trade between countries

(i) Production of spices:

The international production of spices has rapidly increased since the 1960s, from 1.7-million MT in 1965 to 6.6-million MT in 2005 (See Table in **Annexure I**). The world trade in spices is estimated to be 1.10 Million MT valued at 3750 Million US $. Production of spices take place in different geographical locations and different countries dominate in certain spices on account of the very congenial climatic and soil conditions. The advancements in research and technology have resulted in new countries entering the production scenario too. It is very pertinent to state the production base of most of the spices lie within the developing nations in **Asia** (like Bhutan, Bangladesh, Cambodia, China, India, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam), **Africa** (Algeria, Cameroon, Comoros, Democratic Republic of Congo, Egypt, Ethiopia, Ghana, Kenya, Madagascar, Morocco, Nigeria, Reunion Islands, South Africa, Tunisia and Zimbabwe,), **Near East** (Afghanistan, Iran, Syria and Turkey), **Latin America and Caribbean** (Brazil, Chile, Columbia, Costa Rica, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Peru and Trinidad & Tobago).

Indian production of spices was 3.1-million MT in 2004 besides China with 692,000 MT, Indonesia produces 448,000 MT. Details in **Annexure II).**

Spices and Herbs production in European Union has been facilitated in the recent years through new production techniques, including green houses, drip irrigation and farming technology improvements. FAOSTAT reports an annual average decrease of seven percent in production of spices between 2005 and 2009 amounting to 100 thousand tones in 2009.

The developing countries have grown their production levels of spices (A**nnexure II**) from 1965 to 2005 by an annual average growth rate of 3.6 percent, while developed countries had an annual average growth of only 0.6 percent. Ginger (**Annexure III**) is the spice variety that showed good performance during 1965 to 2005, with an average annual growth rate of 6.5 percent, followed by cinnamon at 4.9 percent per annum and pepper and cloves at 4.4 percent per annum. Although aniseed, cloves and especially vanilla have been good performers recently, vanilla is a rather 'light' commodity.

(ii) Production of herbs:

The main producers of herbs are Albania, Canada, China, Belgium, Chile, Denmark, Egypt, France, Germany, Greece, India, Italy, Morocco, Poland, Slovenia, Spain, Turkey, The UK, The Netherlands, USA and Yugoslavia. Though this crop is cultivated in Europe, The US besides in Asia, authentic figures on production in respect of individual countries and world is not available. However the table below points to production of Herbs in West Europe. (Ref. **Annexure IV)**

iii) Consumption of spices:

Spices are emerging as one of the very important commodities not only in terms of its extensive demand and market prospects but for its gaining acceptance as a food ingredient. Almost 96.3% of the spices consumed all over the world is produced by developing nations and their rate of consumption is also high as 87.7% (Ref. **Annexure V**). Europe, North America, all Latin American and African countries as well as Asian countries are large spice consumers and importers. Countries like Malaysia, the Netherlands and Germany are particularly important for raw spice producers, as they act as spice trading hubs. Germany is the world's leading importer of ungrounded and unprocessed black pepper and one of the top exporters of processed pepper and mixed spices, mainly to its European neighbors.

Even countries with very big domestic markets like India, China and Mexico are not necessarily able to produce the quantities of spices their markets demand, especially as tastes grow and diversify and more people move to the cities, creating opportunities for other exporting countries to access these markets.

In this context, to meet increasingly varied food needs, multinational retailers and manufacturers are expanding their presence in developing countries and food retailers are adding value and differentiating their products in developed countries. On account of this there is a growing importance to be more vigilant in its generic properties and grades.

iv) Consumption of herbs:

The global demand for various types of herbs has been going up on account of its varied applications in food and aromatics. This is revealed from the increasing import of herbs from 34,86,916 tonnes in 2009 to 39,27,649 tonnes in 2011. **(Annexure VI A** & **Annexure VI B**). The annual growth in the market for aromatic ingredients has been estimated to be 6%, for food aroma 8.5%, and for raw essential oils 7.5%. The consumption of herbs has risen in France from 10,000 tonnes in 1970 to 32,000 tonnes in 1990. American imports of spices and herbs which were 112,000 tonnes in 1969, were 238,000 tonnes in 1990.

Herbs and spices are going to be in demand going by the figures given out by the CBI Netherlands for spices and herbs put together **(Annexure VII**).

v) Volume and patterns of trade, including trends in trade volume and patterns

Spices: International figures are available for 22 spices which are traded globally. UN Comtrade has estimated the global trade in respect of exports and imports for the selected spices. (List **in Annexure VIII (A) and VIII (B)**)

The world import of spices has been going up year after year. The global exports of spices (volume) had a spurt from 89, 21,762 MT in 2007 to 1, 33, 26,529 MT in 2010. There is also an increase in the import volume of spices from 91,02,925 MT in 2007 to 1,21,27,892 in 2010.

The top varieties by value were capsicum and pimento (chilli peppers, cayenne, paprika and all spices) accounting for about 20% of total world trade in spices, followed by black/white pepper (17%) , vanilla (14%), ginger (10.5%), 'other' spices (6.5%), mixed spices (5%), cinnamon (4.4%), cloves (4%), and cumin and nutmeg (2.8% each) (**Annexure IX**).

Herbs: The traditional dried form of herbs and spices is threatened in the future by new processing and preserving methods. New markets for fresh herbs primarily exist in restaurants, but small packages for the consumer are also commanding an increasing market share along with the year round demand in supermarket chains. Yet, storage and transportation of fresh material are costly especially over long distances. These markets represent new opportunities for producers in consuming countries. Frozen herbs are playing an increasing role in the food industry (**Annexure X**).

4) Diversification of national legislation and apparent resultant or potential impediments to international trade

Many of the capable and leading spices and herb producing countries have the advantage of formulating through legislations in their countries their own standards for various spices. However these standards do not match to that of similar spice producing countries. Standards of different countries for major spices are listed in **Annexure XI**. It is noted that there is a huge diversity in the standards of spices across countries and in case of several spices, there are no standards at all. This calls for an urgent need to consider setting up unified international standards under Codex to address this gap. The dominant importers fix their standards to arrive at buying decisions. While some of the standards of producing countries are generally fixed based on scientific studies looking to the basic characteristics of spices, there is no scientific basis generally at large. The lack of a common standard has been a detriment to activate spices exports from the least developed economies of the world and there is an impending need to harmonize grades and specifications for spices at large.

Even for a common spice, there is a need to harmonize standards since some of the spice has various basic differences contributed by the soil and climatic conditions. Herbs and spices encompass a vast variety of products, both primary and derived, and include dried parts of plants that make up traditionally traded spices and spice mixtures, as well as extracted compounds, such as essential oils, oleoresins and aroma compounds used in the flavouring and perfume industries.

5) International or regional market potential

The income around the world is increasing creating a new middle class intent on enjoying different cuisines and the demand for spices will continue to surge. Many of the spices are grown in developing countries and the scope has triggered development of spices cultivation in many least developed countries also.

The main importing regions are the European Union, North America and Asia. (**Annexure XII)**. Although countries in the eastern region of Asia experienced a decline in imports, mainly due to Japan's recession, demand for spices has recently lifted again. The two biggest importing regions, the European Union and North America, following slow-downs in 2000 and 2001, have recovered strongly and posted record figures in 2003 and 2004.

The Near East saw a significant decline in spice imports because of large investments in domestic spice production. The main spice exporting countries are from the regions of Africa, Asia, Latin America, Near East and West Europe. As in Annexure VIII, countries like Brazil, China, India, Indonesia, Italy, Madagascar, Morocco, Nigeria, Peru, Vietnam, Israel, South Africa, Sri Lanka, Tanzania, Uganda, Zimbabwe, and include developed countries lie in Australia, North America and European Union. (**Annexure XIII**).

Over the last two years a considerable increase in export and import of aromatics herbs has been observed. The graph below shows the global export trend of Bayleaf/Tejpath, Marjoram, Mint, Oregano, Rosemary, Sage, Savory, Tarragon and Thyme. (**Annexure V (A) and V (B)**)

6) Amenability of the commodities to standardization.

i) Characteristics of spices which need to be standardized

Whole Spices as listed below are major spices which require standardization on the following lines. Some of the countries like India have standards fixed for spices. The major characteristics to be standardized include the following:

- Cardamom–Volatile oil, extraneous matter (organic and inorganic), empty and malformed capsules present by count, immature and shriveled capsules, black and split percent by count, moisture content, ash content,
- Black pepper–processed, semi processed and non processed, extraneous matter (organic and inorganic), light berries, pin heads, broken berries, bulk density, moisture, total ash, non volatile ether extract, volatile oil, piperine content.
- Chillies (Capsicum or Paprika)–Capsacinoid content, colour value, acid insoluble ash, total ash, moisture, broken fruits and fragments, Unripe and marked fruits, extraneous matter (organic and inorganic).
- Turmeric–Curcuminoid content, Defective rhizomes, moisture, extraneous matter (organic and inorganic
- Nutmeg–Volatile oil content, insect damaged and broken kernels, moisture content.
- Mace–Volatile oil, Moisture content, insect damaged per cent, extraneous matter (organic and inorganic)
- Clove–volatile oil content on dry basis, moisture content, insect damaged cloves, immature and khoker cloves, headless cloves, extraneous matter (organic and inorganic)
- Coriander–Volatile oil, acid insoluble ash, total ash, moisture, damaged, discoloured , shrivelled, Insect bored fruits, split fruits, extraneous matter (organic and inorganic)
- Ginger–Volatile oil, Calcium percent, total ash, moisture percent, extraneous matter (organic and inorganic), size of rhizomes.
- Cumin–Volatile oil, non volatile ether extract, acid insoluble ash, total ash, moisture percent, insect damaged, discoloured, weevilled, immature seeds, extraneous matter (organic and inorganic).
- Fennel–Crude fibre, volatile oil, moisture, immature, shrivelled, discoloured, blackened seeds percent, broken damaged seeds, extraneous matter (organic and inorganic).

ii) Characteristics of herbs which need to be standardized

Extraneous matter, shriveled damaged and discouloured leaves, cut leaves, insect bored and diseased leaves, twigs, leaf stalk and volatile oil are the criteria for aromatic herbs which includes Basil, Tarragon, Mint, Marjoram, Oregano, Savory, Flat-leaf parsley, Bay Leaves/ Tejpath, Thyme, Sage, Rosemary and Curry leaf.

7) Coverage of the main consumer protection and trade issues by existing or proposed general standards.

There are multiple standards set for spice trade by various trade and regulatory bodies which leave overlaps or gaps with existing standards. For instance, European Spice Association (ESA), American Spice Trade Association (ASTA), International Standards Organisation (ISO) etc. Importing nations prescribe quality standards putting the producing nations and their domestic markets under pressure and International trade in spices has been facing rough weather as a result of each country having its own standards. Moreover the quality standards are being revised frequently. Due to these measures by the importing countries, farmers, mostly from developing nations have a hard time adjusting to the new standards. Under this circumstance the producing and consumer nations would need to work together to make harmonized quality standards. Food security laws are to be respected and there is a need to set harmonized testing methods and ensure fair trade practices as well.

The major problem in standardization is that of alignment of national and international standards on analytical techniques. The urgency for this can be best highlighted by projecting one of the confusions that exist in the measurement of colour in capsicum and paprika oleoresin. At various places different colour values are cited viz, 1) EOA colour units 2) conventional colour units of LaWall and Harrison 3) Standard colour units of Mayonnaise Manufactures Association 4)Guenther units 5) Gentry Units 6) Lovibond Red Units 7) ASTA colour value 8) Reflectance values 9) the Benedeckl method (ISO) etc. These confusions can be eliminated if commonly acceptable methods are adopted by all the exporting as well as the importing countries, the buyers and sellers alike. India, the chief producer of spices can initiate an activity of harmonization at international level coordinating other producing and importing countries.

There is the need to examine the prevailing multiple standards and arrive at conformity assessment which could address the following:

a. An integrated approach to technical issues through Inter- governmental consultations.

b. working towards acceptance of local conformity assessment reports

c. Improved accreditation structures with international acceptance taking into confidence the regional structures.

d. Better knowledge at the farm level of practical steps needed to meet the standards.

e. Will help in benchmarking local standards against the internationally fixed standards.

f. Ensuring harmonisation to enable developing countries to participate in the global growth of the sector.

8) The Codex initiative in harmonisation will benefit in terms of

- Doing away with multiplicity of standards, including standards fixed and defined at the farmer, trader, processor, exporter and importer levels.
- Codex deliberations enable participation of both producing and consuming countries.
- Ensures total transparency and enables validation on account of inter-governmental involvement.
- Promotes healthy trade and outlives trade barriers, and realistic equivalence determination.
- Technical ability to meet standards and capacity building.
- Standardising costs of certification- cost effectiveness.
- Stakeholder involvement in the development of locally relevant standards and certification procedures.

9) Number of commodities which would need separate standards indicating whether raw, semi-processed or processed.

Spices: An illustrative list of spices that need standardization is cardamom, **c**hillies, cloves, coriander, cumin, fennel, fenugreek, ginger, nutmeg, mace, pepper and turmeric. The standardization to cover spices in whole, cracked, crushed, ground, dehydrated and in oils and oleoresin forms.

The oils and oleoresins of spices go for lots of applications based on its properties like colour and heat values in the case of chillies, piperine in the case of pepper, curcumin in turmeric and percentage of volatile content in terms of various spices like cumin, fenugreek, fennel, mint, cardamom etc.

Herbs: Aromatic herbs like Basil, Tarragon, Mint, Marjoram, Oregano, Savory, Bay Leaves/ Thejpath, Thyme, Sage, Rosemary and Curry leaf also need to be considered for standardization based on the colour of leaves and volatile oil.

Herbs, herbal oils in plain form, blended forms and herbal infusions are gaining lots of application in the world markets. The Ayurvedic blends, chai and herbals which play an active role as ingredients to wellness products like teas are also to be looked into.

10) Work already undertaken by other international organizations in this field and/or suggested by the relevant international intergovernmental body(ies)

Global Spice Industry is already following certain standards for Spices which are generally accepted in international trade like the ISO standards. Out of the 109 spices (including some of the aromatic herbs) notified by ISO only around 29 spices and nine herbs have specifications. Spice Products are also a part of the spice trade and among them only curry powders and very few spice oils and oleoresins are covered by ISO. ISO (International Organization for Standardization) though is the world's largest developer and publisher of International Standards is a non-governmental body in its strictest sense that connects private and public sectors. On the one hand, many of its member institutes are part of the governmental structure of their countries, or are mandated by their governments; on the other hand, other members have their roots uniquely in the private sector, having been set up by national partnerships of industry associations.

Forums like the CBI Netherlands, World Spice Congress, International Pepper Community and IOSTA (International Organisation of Spice Trading Associations) and World Spice Organisations have made initiatives on spices and herbs aiming to achieve harmonization of standards.

Technical barriers were far from the only ones faced by developing country exporters: examples were the lack of physical infrastructure for transport or telecommunications, and the logistical capability to get products to export markets. In the TBT field, it was felt that these private standards were a legitimate market force in the food sector, and that they had a de facto acceptance which could not be ignored. The linkage with the (often undefined) regulatory principle of *due diligence* was also recognised, and the standards appeared to have value even despite the existence of national regulations and of food safety management documents from both the *Codex Alimentarius* and from ISO. Retailers themselves had shown, in an OECD survey that the majority felt that private standards of this kind established higher levels of food safety, environmental performance, and animal welfare than regulations, and also provided better protection against potential liability claims.

The changing face of international trade has led to the requirement by manufacturers and processors to have single, globally acceptable technical standards and conformance tests. Though there are international standards for spices, there is no common body that deals with product specific harmonised standards for whole spices, ground spices, spice mixes/ blends, spice oils and oleoresins, herbs and herbal formulations. The common body ideally should be one like Codex Alimentarius Commission which has inter-governmental participation from many of the spices producing and consuming countries round the world where discussions and formulations of themes and ideas could be done to formulate harmonised standards.

11) Why Codex Committee on Spices, Aromatic Herbs And Formulations

- Inter- Governmental deliberations in the Codex Committee evolve mandatory status for the evolving standards in spices, herbs and herbal formulations.

- ISO presence in Codex and the possible involvement of similar expertise will contribute to the standardization.

- Spices, herbs and their formulations are commodities/products of medicinal importance and Codex intervention will add to the core objective of addressing health of consumers.

- The production of spices are mainly happening in the developing and less developed countries while the processing and manufacturing base lie mostly with developed countries. Codex standards can make it more agreeable and binding universally by ensuring transparency and bring in fair trade practices.

- Ultimately capacity building and knowledge sharing could take shape under the Codex banner.

12) Advantages of a harmonized standard under Codex

Spices and herbs under reference involve quite a lot of varieties and require detailed deliberations. More often the subjects warrant microscopic analysis on characters and specifications and cannot be done by a body like a task force all alone. Besides the spices and herbs though are plant material acquire their status as per the name through processes after harvest to exploit its inert properties of flavour, aroma and other active ingredients. Hence the subject do not fall under the purview of the any other prevailing committees. The Codex Alimentations initiative will effectively bring to the fore the inter- Governmental participation in harmonisation.

- Will work out proper bridge-building between spices producing and importing countries.

- Opportunity to share experiences with standards and conformity requirements.

- Exchange of views on orientations for good practice that bolsters open markets.

- Will strengthen the factual basis of analytical work and increased confidence in the global relevance of any policy conclusions ensuring the measures taken are least trade restrictive.

- The results could serve as input into the ongoing work for removal of trade barriers and facilitate trade.

- Will facilitate upgrading the standardization of grades and varieties starting from the domain of producing countries to the international markets. In its course of deliberations, opportunity will arise to integrate developing countries into the international trading system. The development of common understanding between the developed and developing world, through development co-operation programmes, was essential, and even within regions of the developing world bridge-building was important.

13) Identification of any requirement for and availability of expert scientific advice:

There is no need of an exclusive scientific advice to take on with the subject under reference.

The subject relating to harmonizing of standards are to be dealt with the operators in trade and commerce who have the expertise and experience in determining factors.

14) Identification of any need for technical input to the standard from external bodies so that this can be planned for:

It is suggested to notify the International Organization of Standardization (ISO) and other international organizations that have done work on standardization of spices and herbs about this proposal. The proposed Committee on spices will take on further initiatives in consultations with these august bodies.

15) Terms of Reference

- To elaborate worldwide standards and codes of practices as may be appropriate for spices, aromatic herbs and their formulations.

- To consult with ISO and other organizations working on standards for spices and herbs in the elaboration of worldwide standards and codes of practices with particular regard to ensuring that there is no duplication of standards or codes of practice and that they follow the same broad format

- It is proposed that the suggested committee may meet every 18 months. In case the Commission agrees, the first session is proposed to be held in the first half of 2014. The specific dates will be finalized in consultation with the Codex Secretariat.

- Since there are several items covered under the proposed committee, the number of sessions required to complete the work cannot be prescribed

16) HOSTING OF THE COMMITTEE

Should the Codex Alimentarius Commission decide to establish a "Codex Committee On Spices, Aromatic Herbs And Their Formulations", India will be happy to host the Committee.

A sample of two project documents proposed for standardization is in **Annexure-XIV (a) and XIV (b)**.

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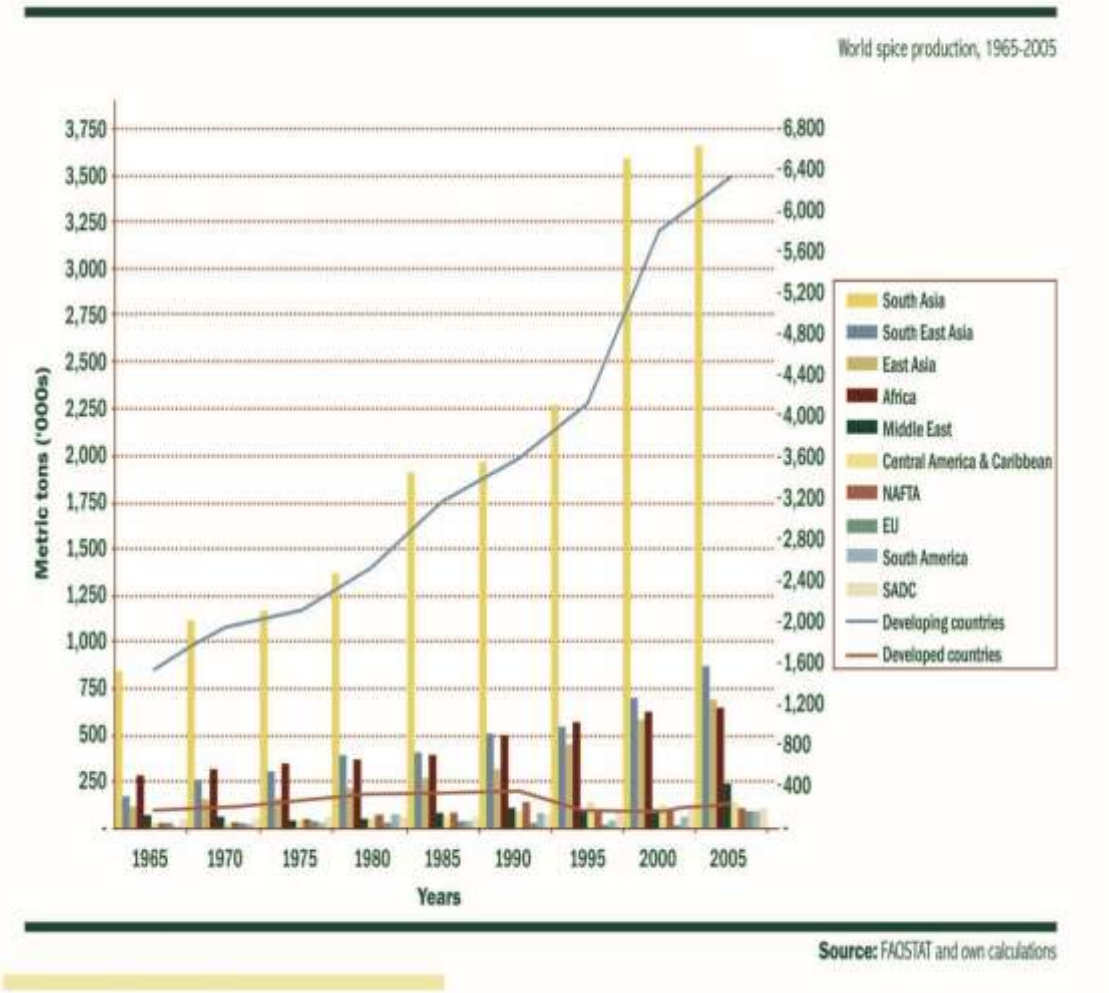
17) PROPOSED SCHEDULE

DATE	ADVANCE AND PROCEDURES
July 2012	India – Presentation of the proposal to set up the Codex Committee on Spices, Aromatic Herbs and their Formulations Approval of the proposal by the Codex Alimentarius Commission.
Between July 2012 and March 2013	Completion of arrangements with the Codex Secretariat. Prepare draft agenda along with new work proposals. These proposals will be prepared through electronic consultation with members to kick start work of the Committee.
June/July 2013	Critical review of new work proposals by CCEXEC Approval of new work proposals by the Commission the process.
Between July 2013 and December 2013	Codex Secretariat to circulate the agenda along with items of approved new work
First half of 2014	Committee to hold its first session and consider new work items at Step 3 Committee also to consider prioritizing its work.

ANNEXURE – I

World spice production 1965-2005



ANNEXURE- II

World production of spices by region and selected countries

World production of spices by region and selected countries

	Years				Average annual growth			
Production (Mt)	**1965**	**1995**	**2000**	**2005**	**00-05**	**95-05**	**65-05**	**World market share (%)**
World	1,731,758	4,306,948	6,005,055	6,578,488	1.8	4.3	3.4	100.0
Developed countries	183,970	175,566	184,233	236,810	5.1	3.0	0.6	3.6
Developing countries	1,547,788	4,131,382	5,820,822	6,341,678	1.7	4.4	3.6	96.4
South Asia	853,101	2,282,477	3,598,914	3,658,421	0.3	4.8	3.7	55.6
South East Asia	177,591	545,449	709,822	870,764	4.2	4.8	4.1	13.2
East Asia	122,441	445,083	588,148	698,350	3.5	4.6	4.4	10.6
Africa	285,788	571,049	623,949	646,319	0.7	1.2	2.1	9.8
Middle East	72,028	109,261	111,643	240,850	16.6	8.2	3.1	3.7
Central America & Caribbean	30,469	143,565	132,609	136,712	0.6	-0.5	3.8	2.1
NAFTA	27,620	88,673	97,875	104,499	1.3	1.7	3.4	1.6
EU	26,586	12,705	13,493	97,020	48.4	22.5	3.3	1.5
South America	11,033	41,244	60,868	94,965	9.3	8.7	5.5	1.4
Oceania	537	3,254	4,869	5,297	1.7	5.0	5.9	0.1
SADC	46,699	89,606	106,960	111,718	0.9	2.2	2.2	1.7
Selected leading countries								
India	653,000	1,822,400	2,986,600	3,104,000	0.8	5.5	4.0	47.2
China	117,941	434,533	584,871	692,380	3.4	4.8	4.5	10.5
Indonesia	52,150	292,102	370,015	447,899	3.9	4.4	5.5	6.8
Bangladesh	121,700	136,670	227,000	234,000	0.6	5.5	1.6	3.6
Nigeria	34,080	130,000	146,500	161,500	2.0	2.2	4.0	2.5
Madagascar	11,845	21,756	23,412	24,890	1.2	1.4	1.9	0.4

Source: FAOSTAT and own calculations

ANNEXURE –III

World production of Spices by variety 1965- 2005

World production of spices by variety, 1965-2005

World	Year				Average annual growth			Market share (%)
Production (Mt)	1965	1995	2000	2005	00-05	95-05	65-05	
Capsicum and pimento	1,057,777	1,928,688	2,302,879	2,450,336	1.2	2.4	2.1	37.2
Other spices	356,759	900,016	1,863,160	1,899,000	0.4	7.8	4.3	28.9
Ginger	82,283	672,780	916,438	1,004,546	1.9	4.1	6.5	15.3
Anise, badian, fennel	97,260	309,888	325,040	446,296	6.5	3.7	3.9	6.8
Pepper, white/long/black	74,442	236,843	309,667	409,899	5.8	5.6	4.4	6.2
Cloves, whole+stems	26,378	108,157	104,999	145,370	6.7	3.0	4.4	2.2
Cinnamon (canella)	19,692	81,263	108,247	134,410	4.4	5.2	4.9	2.0
Nutmeg, mace, cardamom	15,418	64,946	70,061	81,292	3.0	2.3	4.2	1.2
Vanilla	1,749	4,367	4,564	7,339	10.0	5.3	3.7	0.1
Total	1,731,758	4,306,948	6,005,055	6,578,488	1.8	4.3	3.4	100.0

Source: FAOSTAT and own calculations

ANNEXURE –IV

Estimation of West European production of herbs.

Country	Area (ha)	Herb
Spain	28,000	Anise, saffron, mint, cumin, poppy, datura
France	20,000	Lavandin, poppy, clary sage, parsley, tarragon, thyme
Italy	2,800	Mint, tarragon, orris, sage
Netherlands	2,200	Poppy, parsley, caraway, digitalis, evening primrose
Denmark	2,000	Caraway
Germany	2,000	Mint, parsley, thyme, balm
U.K.	800	Parsley, evening primrose

Modified from ONIPPAM 1990.

[Ref; http://www.hort.purdue.edu/newcrop/proceedings1993/v2-616.html#Table%201]

ANNEXURE –V

World spice supply usage by region and selected countries 2003

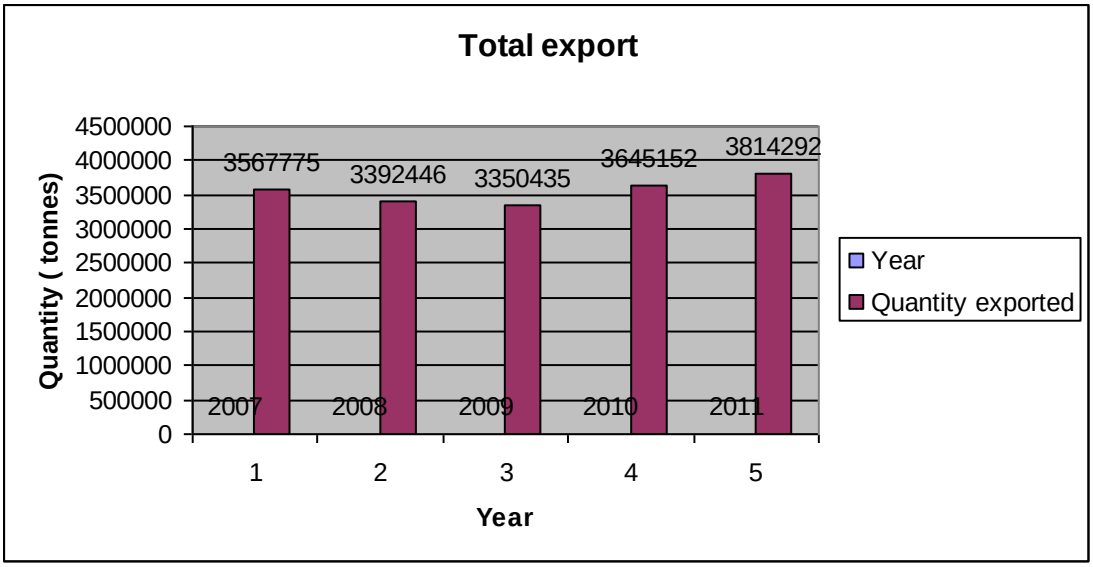
World spice supply usage by region and selected countries, 2003 (Mt)

	Production	Imports	Exports	Domestic supply	% of world production	% of world exports	% of world consumption
World	6,440,704	1,554,977	1,543,067	6,461,522	100.0	100.0	100.0
Developed countries	227,220	813,140	248,137	793,233	3.5	16.1	12.3
Developing countries	6,213,484	741,837	1,294,930	5,668,289	96.5	83.9	87.7
South Asia	3,643,742	242,173	265,514	3,620,521	56.6	17.2	56.0
Africa	646,890	77,330	76,375	658,675	10.0	4.9	10.2
South East Asia	794,238	10,187	281,161	517,814	12.3	18.2	8.0
East Asia	663,769	200,527	402,911	461,585	10.3	26.1	7.1
NAFTA	102,909	302,278	53,123	352,064	1.6	3.4	5.4
Middle East	240,713	152,658	131,634	263,737	3.7	8.5	4.1
EU	13,020	299,577	140,296	174,916	0.2	9.1	2.7
Central America & Caribbean	136,569	45,616	59,736	122,234	2.1	3.9	1.9
South America	93,372	29,546	85,030	38,501	1.4	5.5	0.6
Oceania	4,191	13,251	5,027	10,600	0.1	0.3	0.2
SADC	111,343	26,536	45,684	101,905	1.7	3.0	1.6
Selected coutries							
India	3,104,000	93,215	222,000	2,975,215	48.2	14.4	46.0
Indonesia	392,375	14,800	117,412	289,763	6.1	7.6	4.5
China	657,799	24,675	399,836	282,838	10.2	25.9	4.4
US	2,720	244,976	24,277	223,419	0.0	1.6	3.5
Japan	-	144,345	1,073	143,272	0.0	0.1	2.2
Malaysia	27,100	99,206	40,235	81,071	0.4	2.6	1.3
Germany	-	70,356	22,272	48,084	0.0	1.4	0.7
UK	-	46,899	7,447	39,452	0.0	0.5	0.6
The Netherlands	200	58,158	38,394	20,964	0.0	2.5	0.3
Selected SADC countries							
Botswana	-	2,111	10	2,101	0.00	0.00	0.03
Congo, DRC	33,000	107	-	33,107	0.51	0.00	0.51
Lesotho	-	1,200	-	1,200	0.00	0.00	0.02
Madagascar	24,515	41	17,635	10,721	0.38	1.14	0.17
Mauritius	673	1,855	118	2,410	0.01	0.01	0.04
South Africa	10,000	17,398	9,636	17,962	0.16	0.62	0.28
Swaziland	-	1,250	299	966	0.00	0.02	0.01
Tanzania	19,700	158	5,957	17,001	0.31	0.39	0.26
Zimbabwe	15,535	185	9,408	8,367	0.24	0.61	0.13

Source: FAOSTAT and own calculations

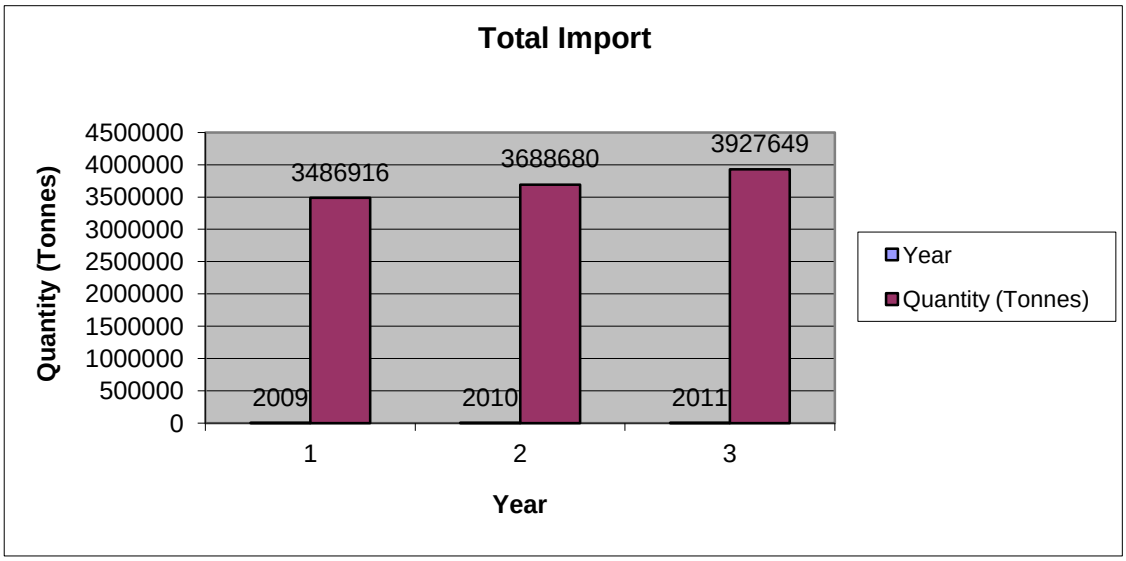
ANNEXURE- VI

A. Aromatic Herbs Export



Source: ITC trade map

B. Aromatic Herbs Import



Source: ITC trade map

ANNEXURE VII

EU consumption, production and imports of spices and herbs in Tonnes.

	Total consumption		Total production		Total imports		Imports from DCs		Share of DC in total imports	Attractivity index
	Volume 2009	Growth '05-'09	Volume 2009	Growth '05-'09	Volume 2009	Growth '05-'09	Volume 2009	Growth '05-'09		
EU27	306,450	-0.6%	99,920	-7.0%	443,439	5.5%	260,968	4.7%	49%	n.a.
Germany	56,021	2.7%	0	n.a.	85,270	2.8%	53,595	2.9%	59%	+++
Netherlands	9,636	-15%	280	8.8%	74,721	5.1%	52,930	3.1%	61%	+++
UK	60,660	8.7%	0	n.a.	68,064	8.6%	50,930	10%	58%	+++
Spain	19,687	3.4%	8,899	5.2%	52,430	4.9%	47,124	5.1%	83%	++
France	20,629	4.9%	0	n.a.	32,106	4.1%	16,277	2.4%	44%	++
Italy	2,539	-25%	0	n.a.	11,777	0.7%	7,517	0.5%	51%	+
Belgium	7,963	-6.0%	0	n.a.	17,862	1.1%	7,348	6.7%	29%	+/-
Poland	10,392	1.0%	0	n.a.	15,124	3.8%	5,033	-5.0%	25%	+/-
Sweden	7,258	5.4%	0	n.a.	8,871	6.6%	3,232	11%	40%	+/-
Greece	4,683	4.6%	850	2.5%	4,171	4.7%	2,822	0.1%	48%	+/-
Bulgaria	1,584	-18%	29,800	0.9%	4,090	28%	2,510	19%	56%	+/-
Austria	7,556	8.8%	0	n.a.	13,585	3.6%	2,413	16%	12%	-
Romania	39,489	-0.8%	40,063	1.3%	5,558	-0.6%	2,112	-12%	15%	-
Hungary	19,824	-22%	17,094	-25%	5,568	5.3%	1,695	14%	28%	-
Slovenia	2,539	5.3%	1,300	0.0%	1,732	14%	748	15%	21%	-
Slovakia	4,839	19%	56	-7.7%	5,292	22%	687	20%	24%	-
Portugal	2,446	4.2%	15	11%	2,791	6.0%	685	19%	8.9%	-
Denmark	5,254	6.7%	50	5.7%	7,009	6.4%	681	-6.8%	6.0%	-
Czech Rep.	15,617	17%	1,513	-22%	15,674	31%	609	26%	4.0%	-
Estonia	862	3.1%	0	n.a.	1,614	8.2%	508	53%	26%	-
Finland	2,020	4.8%	0	n.a.	2,050	4.0%	482	29%	18%	-
Lithuania	1,110	77%	0	n.a.	2,509	18%	369	-0.3%	12%	-
Ireland	2,676	10%	0	n.a.	3,454	7.3%	250	30%	4.9%	-
Cyprus	413	-8.6%	0	n.a.	421	-8.5%	244	4.3%	41%	-
Latvia	791	8.2%	0	n.a.	1,107	6.5%	101	16%	4.4%	-
Malta	232	12%	0	n.a.	232	12%	66	16%	21%	-
Luxembourg	n.a.	n.a.	0	n.a.	357	3.1%	0	n.a.	0.0%	-

Source: Eurostat Prodcom (2010) and FAOSTAT (2010)

ANNEXURE VIII

Annexure VIII (a)

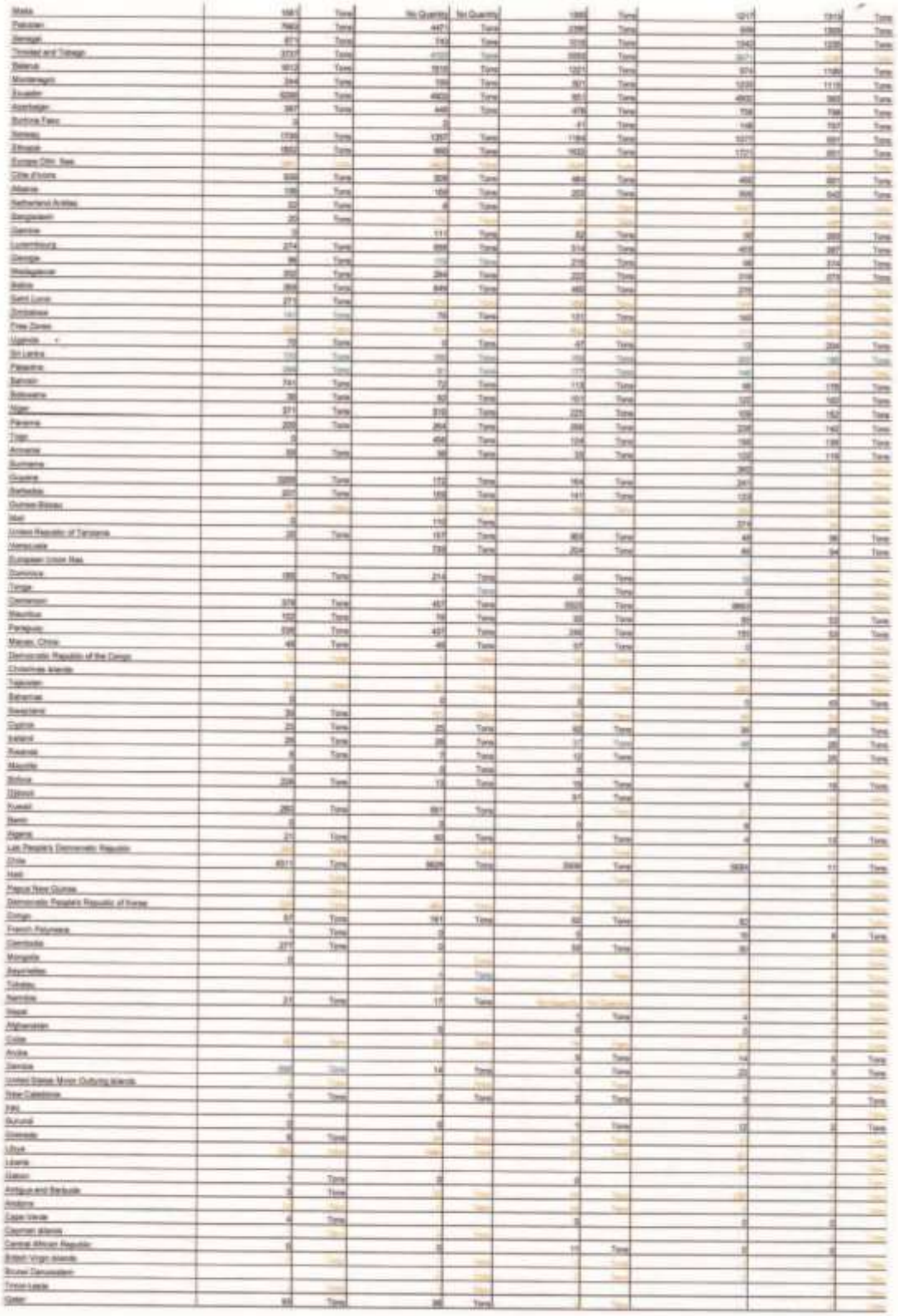
List of exporters for the selected product group
Product group : HS OTHER SPICES

Sources : ITC calculations based on UN COMTRADE statistics.
The world aggregation represents the sum of reporting and non reporting countries
Data based on the partner reported data (Mirror data) are shown in orange

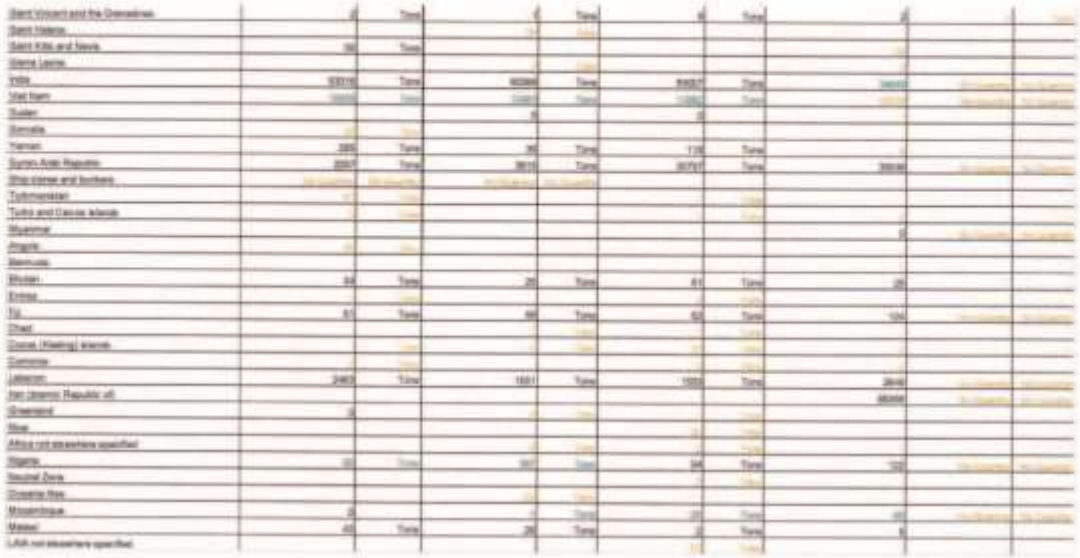
The quantities shown in dark green are estimated by ITC. For further information, please refer to the ITC explanatory note.
The quantities shown in light green are estimated by UNSD. For further information, please refer to the UNSD explanatory note.

Exporters	2007		2008		2009		2010	2011	
	Exported quantity	Unit	Exported quantity	Unit	Exported quantity	Unit	Exported quantity, Tons	Exported quantity	Unit
World	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
China	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Mexico	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Spain	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Netherlands	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
United States of America	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Canada	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Germany	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Thailand	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Belgium	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
France	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Italy	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Israel	[illegible]	Tons	2		[illegible]	Tons	[illegible]	[illegible]	Tons
Argentina	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Turkey	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
United Kingdom	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Hong Kong, China	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Poland	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Russian Federation	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Austria	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Malaysia	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Morocco	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Republic of Korea	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Czech Republic	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Ukraine	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Japan	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Lithuania	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Hungary	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
The former Yugoslav Republic of Macedonia	[illegible]	Tons			[illegible]	Tons		[illegible]	Tons
Australia	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Jordan	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Costa Rica	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Indonesia	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
New Zealand	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Sweden	[illegible]	Tons	No Quantity	No Quantity	[illegible]	Tons	[illegible]	[illegible]	Tons
South Africa	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Philippines	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Singapore	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Switzerland	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Denmark	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Dominican Republic	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Serbia	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Guatemala	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Croatia	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Greece	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Slovakia	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Estonia	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Peru	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Chinese Taipei	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Honduras	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Kyrgyzstan	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Romania	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Egypt			[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
United Arab Emirates	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
El Salvador	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Portugal	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Finland	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Brazil	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Kenya	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Ireland	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Saudi Arabia	[illegible]	Tons	0		0		[illegible]	[illegible]	Tons
Tunisia	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Latvia	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Jamaica	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Colombia	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Guinea	1	Tons	0		[illegible]	Tons	[illegible]	[illegible]	Tons
Ghana	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Uruguay	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Oman	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Samoa	2	Tons	[illegible]	Tons	0		[illegible]	[illegible]	Tons
Slovenia	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Nicaragua	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Republic of Moldova	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Bosnia and Herzegovina	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Uzbekistan	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bulgaria	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	Tons
Kazakhstan	[illegible]	Tons	[illegible]	Tons	[illegible]	Tons	[illegible]	[illegible]	[illegible]

Annexure VIII (a)



Annexure VIII (a)



Annexure VIII (b)

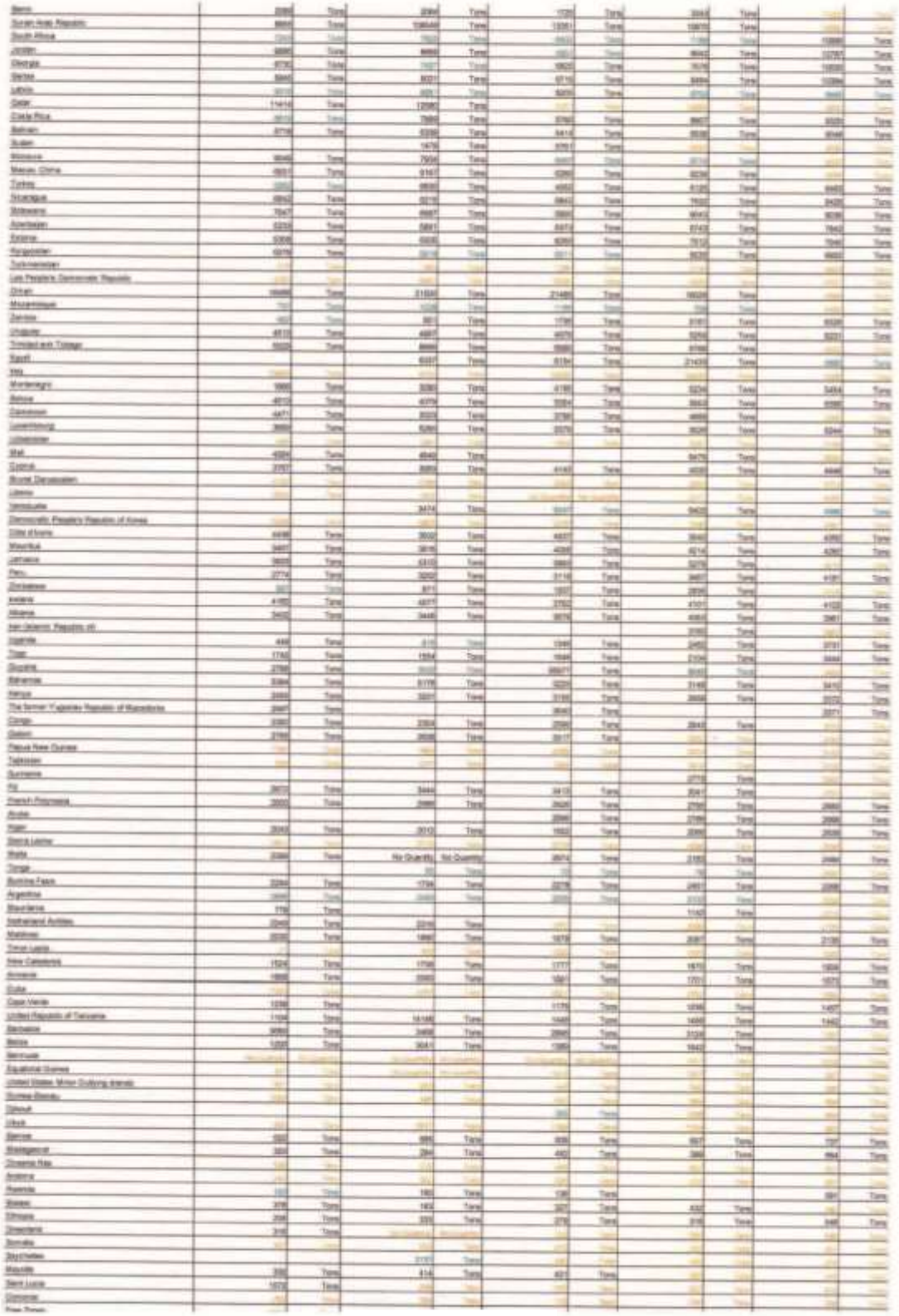
List of importers for the selected product group
Product group : HS OTHER SPICES

Sources : ITC calculations based on UN COMTRADE statistics.
The world aggregation represents the sum of reporting and non reporting countries
Data based on the partner reported data (Mirror data) are shown in orange

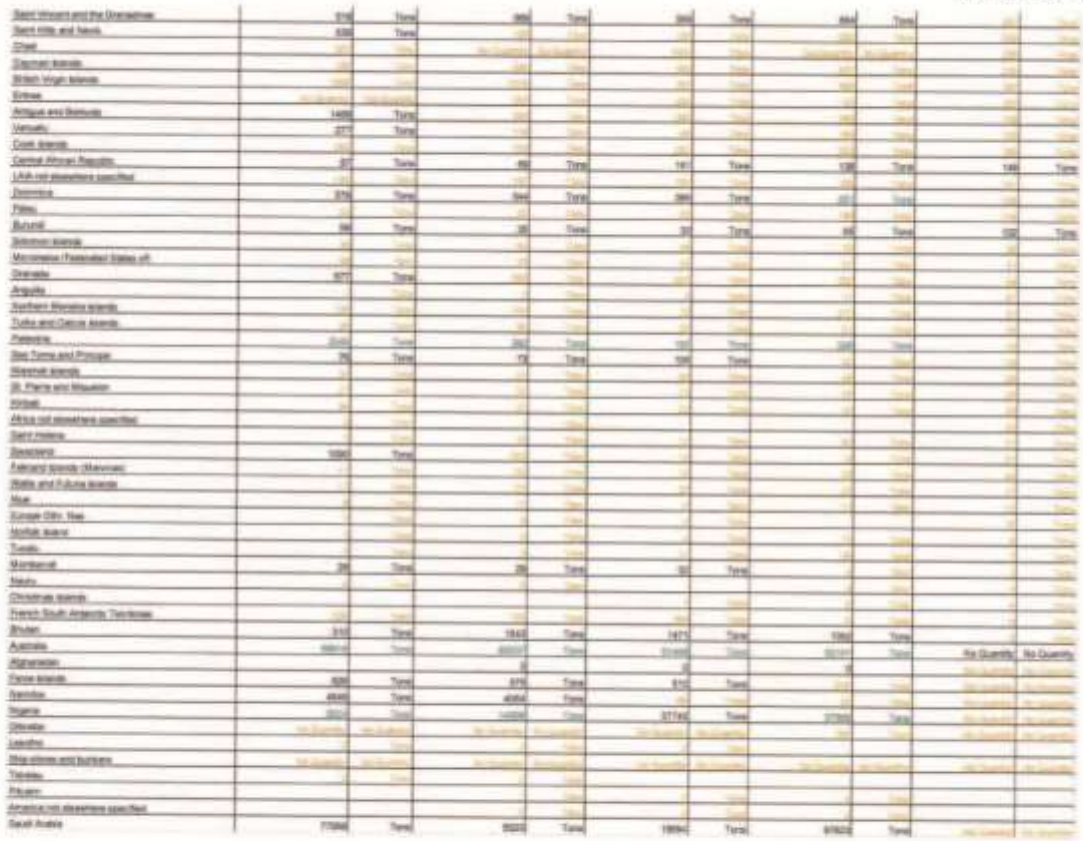
The quantities shown in dark green are estimated by ITC. For further information, please refer to the ITC explanatory note.
The quantities shown in light green are estimated by UNSD. For further information, please refer to the UNSD explanatory note.

Importers	2007		2008		2009		2010		2011	
	Imported quantity	Unit	Imported quantity	Unit	Imported quantity	Unit	Imported quantity	Unit	Imported quantity	Unit
World	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
United States of America	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Germany	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
United Kingdom	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Indonesia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Canada	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
France	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Netherlands	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Russian Federation	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Italy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Brazil	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Malaysia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Japan	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Viet Nam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Republic of Korea	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Belgium	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Annexure VIII (b)

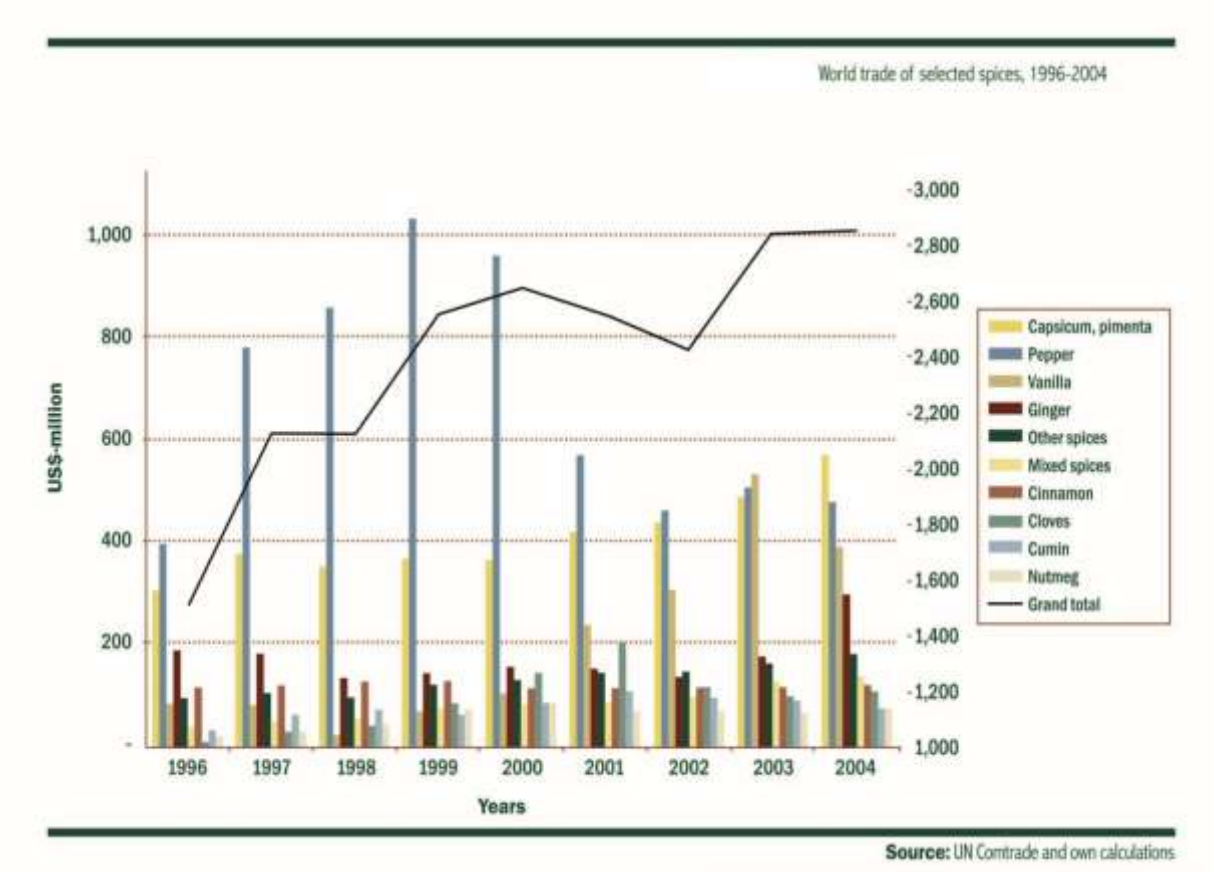


Annexure VIII (b)



ANNEXURE – IX

World trade of selected Spices 1996-2004



ANNEXURE X

Leading importers of spices and herbs in 2009

Sl no	Volume of imports	Sl no	Value of imports
1.	China 16%	1.	Vietnam 7.3%
2.	India 9.4%	2.	China 6.7 %
3.	Vietnam 8.3 %	3.	Iran 6.5 %
4.	Peru 5.1 %	4.	India 6.4 %
5.	Brazil 4.2 %	5.	Indonesia 4.0 %

ANNEXURE – XI (I)

BRAZILIAN QUALITY SPECIFICATION FOR PEPPER

Classification and Type	Moisture % wt, max	Ether extract % wt, min	Extraneous matter % wt, max	Light berries % wt, max	Mouldy berries % wt, max	Grey berries % wt, max
Black Pepper						
Brazil ASTA	14.0	6.75	1.0	2.0	1.0	-
Brazil 1	15.0	6.75	2.0	5.0	2.0	-
Brazil 2	16.0	6.75	5.0	25.0	2.0	-
White Pepper						
Brazil ASTA	14.5	6.5	0.5	1.0	1.0	5.0
Brazil 1	15.5	6.5	1.0	2.0	2.0	15.0
Brazil 2	16.0	6.5	3.0	4.0	2.0	60.0

INDONESIAN STANDARD FOR PEPPER
QUALITY REQUIREMENTS OF BLACK PEPPER

Black Pepper Grade I and Grade II

Characteristics	Grade I	Grade II
Cleanliness	Shall be free from living or dead insects and free from insect fragments	Shall be free from living or dead insects and free from insect fragments
Extraneous matter, % (w/w) max	1.0	1.0
Light berries, % (w/w) maximum	2.0	3.0
Mouldy berries, % (w/w) maximum	1.0	1.0
Moisture Content, % (w/w) maximum	12.0	13.5
Piperine Content, % (w/w)	mentioned as the test result	mentioned as the test result
Essential Oil Content, % (w/w)	mentioned as the test result	mentioned as the test result

ANNEXURE – XI (II)

MALAYSIAN STANDARD FOR PEPPER
Specifications of Sarawak Black and White Pepper
A. Sarawak Black Pepper

	Grade				
Characteristic	**Std Malaysian Black Pepper No.1 (Brown Label)**	**Sarawak Special Black (Yellow Label)**	**Sarawak FAQ Black (Black Label)**	**Sarawak Field Black (Purple Label)**	**Sarawak Coarse Field Black (Grey Label)**
I. Moisture, per cent by weight, maximum	12.0	14.5	15.0	16.0	16.0
II. Light berries, per cent by weight, maximum	2.0	4.0	8.0	10.0	-
III. Extraneous matter, per cent by weight, maximum	1.0	1.5	3.0	4.0	8.0

B. SARAWAK WHITE PEPPER

Characteristic	Grade				
	Std Malaysia White Pepper No.1 (Cream Label)	Sarawak Special White (Green Label)	Sarawak FAQ White (Blue Label)	Sarawak Field White (Orange Label)	Sarawak Coarse Field White (Grey Label)
I. Moisture, per cent by weight, maximum	12.0	15.0	16.0	16.0	16.0
II. Light berries, per cent by weight, maximum	0.2	0.5	1.0	1.5	-
III. Extraneous matter, per cent by weight, maximum	0.25	0.25	0.5	1.0	3.0
IV. Amount of black/dark grey berries in white pepper, per cent by weight, maximum	1.0	1.0	2.0	3.0	5.0

ASTA's Cleanliness specifications
For Spices, Seeds and Herbs **(Effective April 28, 1999)**
For purpose of these Specifications, extraneous matter is defined as everything foreign to the product itself and included, but is not restricted to: stones, dirt, wire, string, stems, sticks, non-toxic foreign seeds, excreta, manure and animal contamination.
The level of contaminants permitted under these Specifications must fall below those shown on the following table, except for the column "Whole Insects, Dead" which cannot exceed the limits shown.

ANNEXURE – XI (III)

	Whole insects dead	Excreta Mammalian	Excreta other	Mould	Insect defiled/ infested	Extraneous foreign matter
Name of spice, seed or herb	**By count**	**By mg./lb**	**By mg./lb**	**% by Wt.**	**% by wt.**	**% by wt.**
All spice	2	5	5.0	2.00	1.00	0.50
Anise	4	3	5.0	1.00	1.00	1.00
Sweet Basil	2	1	2.0	1.00	1.00	0.50n
Caraway	4	3	10.0	1.00	1.00	0.50
Cardamom	4	3	1.0	1.00	1.00	0.50
Cassia	2	1	1.0	5.00	2.50	0.50
Cinnamon	2	1	2.0	1.00	1.0	0.50
Celery Seed	4	3	3.0	1.00	1.0	0.50
Chillies	4	1	8.0	3.00	2.50	0.50
Cloves	4	5	8.0	1.00	1.00	1.00 *
Coriander	4	3	10.0	1.00	1.00	0.50
Cumin Seed	4	3	5.0	1.00	1.00	0.50
Dill Seed	4	3	2.0	1.00	1.00	0.50
Fennel Seed	SF(2)	SF(2)	SF(2)	1.00	1.00	0.50
Ginger	4	3	3.0	SF(3)	SF(3)	1.00
Laurel Leaves **	2	1	10.0	2.00	2.50	0.50
Mace	4	3	1.0	2.00	1.00	0.50
Marjoram	3	1	10.0	1.00	1.00	1.00n
Nutmeg (Broken)	4	5	1.0	SF(4)	SF(4)	0.50
Nutmeg (Whole)	4	0	0.0	SF(5)	SF(5)	0.00

	Whole insects dead	Excreta Mammalian	Excreta other	Mould	Insect defiled/ infested	Extraneous foreign matter
Oregano ***	3	1	10.0	1.00	1.00	1.00n
Black Pepper	2	1	5.0	SF(6)	SF(6)	1.00
White Pepper ****	2	1	1.0	SF(7)	SF(7)	0.50
Poppy Seed	2	3	3.0	1.00	1.00	0.50
Rosemary Leaves	2	1	4.0	1.00	1.00	0.50n
Sage **	2	1	4.0	1.00	1.00	0.50
Savory	2	1	10.0	1.00	1.00	0.50n
Sesame Seed	4	5	10.0	1.00	1.00	0.50

ANNEXURE – XI (IV)

Sesame Seed, Hulled	4	5	1.0	1.00	1.00	0.50n
Tarragon	2	1	1.0	1.00	1.00	0.50n
Thyme	4	1	5.0	1.00	1.00	0.50n
Turmeric	3	5	5.0	3.00	2.50	0.50

Cleanliness specifications: Foot notes:

*	**Clove stems:**	Less than (<) 5% allowance by weight for unattached clove stems over and above the tolerance for other Extraneous Matter is permitted
**	**Laurel leaves: Sage:**	"Stems" will be reported separately for economic purposes and will not represent a Pass/fail criteria
***	**Oregano:**	Analysis for presence of Sumac shall not be mandatory, if samples are marked "Product of Mexico"
****	**White pepper:**	"Percent Black Pepper" will be reported separately for economic purposes and will not represent a pass/fail criteria
(2)	**Fennel Seed:**	In the case of fennel seed, if more than 20% of the sub samples contain any rodent, other excreta or whole insects, or an average of 3 mg/lb. of mammalian excreta, the lot must be reconditioned
(3)	**Ginger**	More than 3% moldy pieces and/or insect infested pieces by weight
(4)	**Broken Nutmeg:**	More than 5% mold/insect defiled combined by weight
(5)	**Whole Nutmeg**	More than 10% insect infested and/or moldy pieces, with a maximum of 5% insect defiled pieces by count
(6)	**Black Pepper**	1% moldy and/or infested pieces by weight
(7)	**White Pepper**	1% moldy and/or infested pieces by weight
u	**Whole Insects, Dead:**	Cannot exceed the limits shown
n	**Extraneous Matter**	Include other plant material, e.g. foreign leaves

ANNEXURE – XI (V)

EUROPEAN SPICE ASSOCIATION SPECIFICATIONS OF QUALITY MINIMA FOR HERBS AND SPICES
(Revised in May 2003 during ESA Meeting)

SUBJECT	
Sampling	(For routine sampling) Square root of units/lots to a maximum of 10 samples. (For arbitration purposes) Square root of all containers e.g. 1 lot of pepper may = 400 bags, therefore square root = 20 samples.
CHEMICAL/PHYSICAL ANALYSIS	
Ash	Refer to ANNEX
Acid Insoluble Ash	Refer to ANNEX
Moisture	Refer to ANNEX
Volatile Oil	Refer to ANNEX
Water Activity	To be agreed between buyer and seller.
Bulk Density	To be agreed between buyer and seller.
PURITY	
Species	To be agreed between buyer and seller.
Adulteration	Shall be free from.
Infestation	Should be free in practical terms from live and/or dead insects, insect fragments and rodent contamination visible to the naked eye (corrected if necessary for abnormal vision).
Extraneous matter	Herbs 2%, Spices 1%
Foreign Matter	maximum 2%
SENSORY PROPERTIES	
Off Odours	Shall be free from off odour or taste.
Packaging	Should be agreed between buyer and seller.

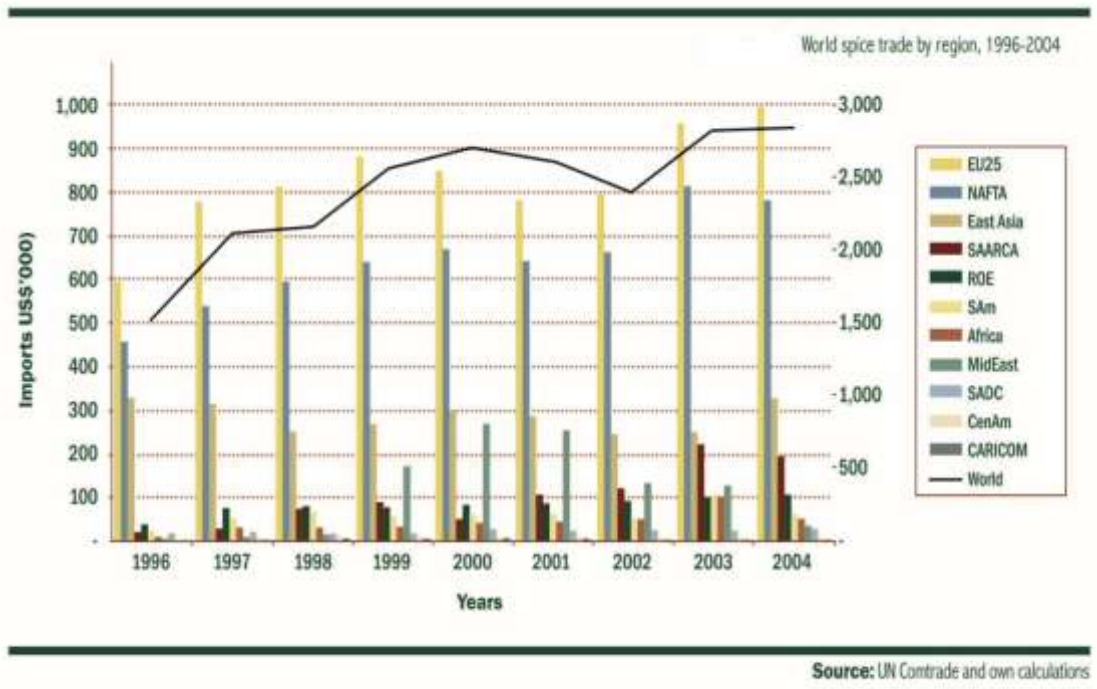
ANNEXURE – XI (VI)

PRODUCT (whole form)	**ASH % W/W MAX**	**AIA % W/W MAX**	**H_20 % W/W MAX**	**V/O % V/W MIN**
ANISEED	**9**	**2.5**	**12**	**1**
BASIL	**16**	**3.5**	**12**	**0.5**
BAY	**7**	**2**	**8** [1]	**1**
CARDAMOM	**9**	**2.5**	**12**	**4**
CASSIA	**7**	**2**	**14**	**1.0**
CELERY SEED	**12**	**3**	**11**	**1.5**
CHERVIL	**17**	**2**	**8**	**-**
CHILLI	**10**	**1.6**	**11**	**-**
CHIVES	**13**	**2**	**8**	-
CINNAMON	**7**	**2**	**14**	**0.4**
CLOVES	**7**	**0.5**	**12**	**14**

PRODUCT (whole form)	ASH % W/W MAX	AIA % W/W MAX	H_20 % W/W MAX	V/O % V/W MIN
CORIANDER	7	1.5	12	0.3
CUMIN	14	3	13	1.5
DILL TOPS	15	2	8	-
DILL SEED	10	2.5	12	1
DUTCH CARAWAY	8	1.5	13	2.5
FENNEL SEED	9	2	12	1.5
FENUGREEK	7	2	12	-
GARLIC POWDER	6	0.5	7	-
GINGER	8	2	12	1.5
MACE	4	0.5	10	5
MARJORAM	10	2	12	1
MINT	12	2.5	13	0.5
MUSTARD	6.5	1	10	-
NUTMEG	3	0.5	12	6.5
ONION POWDER	5	0.5	6	-
OREGANO	10	2.5	12	1.5
PAPRIKA POWDER	10	2	11	-
PARSLEY (not English)	14	1.5	7.5	-
PEPPER BLACK	7	1.5	12	2
PEPPER WHITE	3.5	0.3	12	1.5
PIMENTO				
Jamaica	5	0.4	12	3.5
Other origins	5	1	12	2
ROSEMARY	8	1	10	1
SAFFRON WHOLE	8	1	12	-
SAFFRON GROUND	8	1.5	10	-
SAGE	12	2	12	1.5
SAVOURY	12	1	12	0.5
TARRAGON	12	1.5	8	0.5
THYME	14	4	12	1
TURMERIC WHOLE	8	2	12	2.5
GROUND	9	2.5	10	1.5

ANNEXURE – XII

World spice trade by region 1996-2004



The leading exporting countries of spices, 2005

The leading exporting countries of spices, 2005 (US$-million)

Rank	Exporter name	Exports 2005 (US $'000)	Market share (%)	CGAR 2000 - 2005	Rank	Exporter name	Exports 2005 (us $'000)	Market share (%)
-	**The world**	3,291,531	100	4.4	17	Iran, Islamic Rep.	57,721	1.8
Top 20					18	Syrian Arab Rep.	56,839	1.1
1	China	431,422	13.1	14.4	19	US	56,544	1.7
2	India	316,677	9.6	2.3	20	Mexico	50,926	1.5
3	Indonesia	282,864	8.6	-6.1	**Selected countries**			
4	Vietnam	212,959	6.5	8.1	21	Israel	49,309	1.5
5	Brazil	170,742	5.2	10.4	29	South Africa	19,099	0.6
6	Peru	145,468	4.4	80.3	32	Italy	15,580	0.5
7	Germany	123,624	3.8	10.8	33	Morocco	15,430	0.5
8	Madagascar	119,210	3.6	-6.3	34	Nigeria	15,378	0.5
9	Sri Lanka	100,754	3.1	7.1	37	Tanzania	14,193	0.4
10	Spain	100,419	3.1	7.1	44	Zimbabwe	10,035	0.3
11	Netherlands	81,657	2.5	-0.7	46	Uganda	9,267	0.3
12	France	71,275	2.2	10.8	52	Australia	7,056	0.2
13	Turkey	68,013	2.1	6.3	68	Ethiopia	2,895	0.1
14	Guatemala	67,897	2.1	-7.7	69	Malawi	2,832	0.1
15	Thailand	65,298	2.0	5.3	71	Kenya	2,775	0.1
16	Malaysia	58,794	1.8	-16.1	78	Argentina	1,991	0.1

Source: UN Comtrade and own calculations

ANNEXURE XIV (A)

Proposal for new work on CODEX Standards for Pepper whole (Green, black & white) and pepper products.

(Proposal submitted by India)

Introduction

Grown in many countries in Asia and Latin American region pepper is bought across the world for its wide applications. Pepper is aromatic, pungent and contains essential oil (up to 3.5%) and 5 - 10% pungent acid-amides with piperine as well as piperyline, piperoleines and piperamine, while the oil contains sabinene, pinene, phellandrene, linalool and limonene. Piperine has good anticonvulsant and antimicrobial properties , hence has lots of medicinal properties and finds applications in food, non food and pharmaceutical industries. The pungency is strong in white pepper while black and green peppercorns are more aromatic than the white ones. Green pepper corn has an immature, herbaceous fragrance. The pepper producing and importing countries have their standards and grades fixed over a period of time and the multiplicity warrants arriving at harmonization of a global standard for green, black and white pepper.

1. The purpose and scope of the Standard

The scope of the standard is for pepper - *Piper nigrum* of the Piperaceae family. Pepper corns are the berries that are obtained from stalks of a creeper with woody stems and oval heart shaped leaves. Cultivated in Asia and Latin American regions, the plant contributes to three types of pepper in whole form: Green pepper (in brine, frozen and dehydrated forms), white pepper (the fully matured fruit after removal of pericarp before drying) and black pepper (the mature dried berry). Pepper yields oils and oleoresins besides value added products in crushed, cracked, ground forms.

The objective is to develop a world wide standard based on characteristics like colour, size of the berries, active ingredients like piperine and any other factors that need to be considered for bringing in a transparent system of harmonisation.

2. Relevance and Timeliness

Pepper is one of the oldest commodities traded world wide and traded in a tight supply situation. It is produced in countries like Brazil, Cambodia, China P.R, Ecuador, India, Indonesia, Madagascar, Malaysia, Sri Lanka, Thailand and Vietnam in an area of 4,76,514 hectares as of 2010. Almost all the pepper producing countries are developing nations and small and marginal farmers are engaged in farming. It is important that fair trade practices are ensured. Pepper being a universal commodity consumed by millions of people and scores of industry segments, it is important that production and post harvest operation including grading and packing are subject to hygienic and quality standard. The intrinsic properties in pepper has many things to do with health of the consumers.

The relevance of pepper is such that it is high time that a standard based on its properties especially active ingredients, bulk density, physical size etc are arrived at through harmonisation. This will avoid discrepancies in the standards when it comes to marketing not only from producing countries but from re-exporting centres also. The act of harmonisation will act as a reference that is internationally agreed through consensus between the major producing and trading countries, besides protecting consumers' health and promoting fair trade in accordance with the different international agreements.

Pepper is called as the ‘King of spices’ on account of its usage round the world more than any of the spices present. Dried black pepper berries are by monetary value, the most widely traded spice in the world, accounting for nearly 30 percent of all spice imports in the world. The production of pepper is dependent upon the hot and moist weather conditions and the pepper crop needs these sorts of conditions to prosper.

Pepper is in great demand and any further addition in production from any part of the world could be absorbed by the global market. This is true in the case of any form of pepper whether it be whole, crushed, cracked, powdered, dehydrated, put in brine or in the form of oils and oleoresins. Besides its culinary and industrial applications, pepper has many of medicinal properties. Its culinary use, applications in aroma therapy, in the preparations of modern and ancient medicinal formulations points to the richness of the active ingredient Piperine which matters food and health of the people.

3. Main aspects to be covered

The standard entails aspects related to size of the pepper corns and other physical parameters, safety and labelling in order to provide adequate product characteristics and to protect consumer's health. To supply high quality safe products, the objective of the standards are to:

- Establish the minimum requirements for pepper including and in additions to the quality parameters like the soundness, free from pest and other extraneous matter etc
- Define the categories to classify Pepper in accordance with the characteristics of the berries; taking into account the whole, crushed, cracked, ground, dehydrated in brine, frozen forms.
- Establish Piperine and essential oil content and other values.
- Include the provisions to be considered related to the uniformity of the Packaged product and the packaging used.
- Include provisions for the labeling and marking of the product in accordance with the general standard for the labeling of prepackaged foods.
- Establish tolerances regarding quality and size permitted in packaged pepper.
- Include provisions for hygiene with reference to the recommended international code of practice for hygiene and general principles of food hygiene

4. Assessment against the Criteria for the Establishment of Work Priorities

General criterion

Consumer protection from the point of view of health and the prevention of fraudulent practices. Quality of the produce to meet consumer needs and the minimum requirements of food safety.Arriving at levels of standardisation based on the properties of different varieties to meet industrial and consumer needs with exactness and credibility. The elaboration of the standard for the forms of pepper would be to the benefit of many countries in general and more particular in the case of developing countries, for the developing countries are the major producers, exporters and consumers of pepper.

Criteria applicable to commodities

a) Volume of production and consumption in individual countries and volume and pattern of trade between countries:

There has been decline in the area under pepper cultivation from 5,77,630 hectares recorded during 2003 **(Appendix I)**. The world's total production was recorded at 3, 38, 380 MT in 2010, of which black pepper constitutes 2,64,980MT and white pepper 73,400 MT **(Appendix II & III)**. Pepper is grown in an area of 4,76,514 hectares (as per figures for 2010) in countries like Brazil, Cambodia, China P.R, Ecuador, India, Indonesia, Madagascar, Malaysia, Sri Lanka, Thailand and Vietnam. The major producers forms part of the International Pepper Community Countries (IPC) covering about 85% of the world pepper trade.

While the pepper producing countries do export of pepper, they also are importing sizeable quantities for value addition and re-exports. It has been estimated that a quantity of 46,309 MT of pepper was imported by the producing countries during 2010. The trend in imports by producing countries is on the upswing since the imports was 18,421 MT only during 2001 **(Appendix IV)**. Pepper exports by producing countries is estimated to be 2, 65,254 MT during 2010 which is lower than 2, 73,677 MT of 2009 but much higher than 2, 01,285 MT of 2001 **(Appendix V).**

Total imports of pepper by consuming countries across the world in almost all continents is estimated to be 2, 81,282 MT in 2010 higher than quantities of the earlier years. (**Appendix VI**). It is peculiar of pepper that many importing countries re-export sizeable quantities to friendly zones and other markets after value addition in one or the other form. Nearly one hundred countries do re-export and a figure for 2010 is estimated to be 75,274 MT. **(Appendix VII)**.

Being an oldest traded commodity, pepper had made its impact in every producing and importing country. There exist lots of complexities in terms of grades and specification of pepper from different origins. Each producing country has its own grades and specifications being followed over a period of time. Hence there are separately prevailing standards for instance for Brazil, India, Indonesia, Malaysia, Vietnam etc. The levels prescribed for moisture content, extraneous matter, piperine etc has variations in different standards.

There exist further more standards prescribed by the American Spice Trade Association, European Spice Association and the International Pepper Community **(Appendix VIII (A), VIII (B) & VIII(C)**.

b) Diversification of national legislations and apparent resultant or potential impediments to international trade:

Imports of pepper take place for many applications. It goes for grinding, cracking, powdering and for extraction based on specific objectives. Hence the trade in pepper takes shape based on applications and customer requirement. However trade in pepper is based on producing country's and importing country's mutually agreed conditions in terms of grade and specifications. However it would be preferred that the trade in pepper and pepper products is carried under a International criteria based on Codex Standard. Therefore, the new work would provide internationally recognized specific standards in order to enhance international trade and to accommodate the importers requirements.

Forecasts show that the overall consumption and trade in pepper is on the rise. Any increase in production could be well absorbed by the global market on account of the market potential round the world.

International organisations like the American Spice Trade Association, European Spice Association and ISO have dealt with the standards for pepper. Many conventions including that of the World Spice Congress has addressed the issue of harmonisation of grades and specifications for pepper. Pepper being produced in developing countries and traded globally not only by the exporters but also through re-exports by importers, is subject to various national legislations. To overcome the resultant or potential impediments to international trade, it is essential to incorporate all existing different standards in a single improved comprehensive standard acceptable across board internationally. This warrants the establishment of a Codex standard as per the Procedural Manual.

However this is a spice of universal importance and has many things to do with health and safety of consumers, by eliminating the variable (sometimes conflicting) sets of rules and regulations, trade barriers will be reduced and would gain a comprehensive legal framework for the minimum acceptable standards for pepper internationally.

c) International or regional market potential:

Total imports of pepper by consuming countries across the world are estimated to be 2, 81,282 MT in 2010, with more than 30% growth in a decade span and it is on the increase. It is peculiar of pepper that many importing countries re-export sizeable quantities to friendly zones and other markets after value addition in one or the other form. Nearly one hundred countries do re-export and a figure for 2010 is estimated to be 75,274 MT.

While the pepper producing countries do export of pepper, they also are importing sizeable quantities for value addition and re-exports. It has been estimated that a quantity of 46,309 MT of pepper was imported by the producing countries during 2010. The trend in imports by producing countries is on the upswing since the imports was 18,421 MT only during 2001.

Demand for pepper is bound to go up in different markets. Other than bulk imports for wholesale application in food and non food sector, quantities are bought and sold in retail outlets for household applications irrespective of cuisines. The oils and oleoresins from pepper will be in use for a wide range of food manufacturing and processing industries on account of its advantages of transport, storage and long shelf life. Among the producing countries, except Vietnam there is a strong domestic market for pepper.

d) Amenability of commodity to standardization:

The characteristics of pepper, from its cultivation through to harvest, fruit characteristics, cultivar varieties, composition, quality and packaging all lend to adequate parameters for the standardization of the product. This will include defining the berries according to its bulk density, size in its whole form, colour of the berries, extraneous matter and other related forms like crushed, cracked, ground and extract (Oils and oleoresins).

e) Coverage of the main consumer protection and trade issues by existing or proposed general standards.

There is no general commodity standard coverage pepper, the new work will enhance consumer protection and facilitate pepper trade by establishing an international agreed quality standard.

f) Number of commodities which would need separate standards including whether raw, semi-processed or processed.

The standard will be for pepper. The derivatives from pepper like green pepper (in brine, frozen and dehydrated forms), white pepper (the fully matured fruit after removal of pericarp before drying), black pepper (the mature dried berry), oils and oleoresins and value added products from pepper will be examined under this individually.

g) Work already undertaken by other international organization in this field.

i) International Pepper Community grades of treated whole pepper, black and white.

ii) ASTA's Cleanliness specification for spices, seeds and herbs.

The need for setting up an international standard for pepper had come up for discussion in International Organization of Spice Trade Associations (IOSTA), International Pepper Community, World Spice Congress and World Spice Organization.

5. Relevance to the CODEX Strategic Objective.

The proposal is in line with the Strategic Vision Statement of the Strategic Plan 2008-2013, in particular, Activity 1.2, 4.1, 5.1 and aims at setting up international accepted minimum quality requirements of pepper for human consumption. It also contributes to fair trade practices wherein the farmers will be able to assess their produce with reference to the quality standards thereby empowering them to realize more monetary values.

6. Information on the relation between the proposal and other existing CODEX documents.

This proposal is for a new global standard and has no relation to any other existing CODEX text on this item, except that this standard will make reference to relevant standards and related texts developed by general subject committees.

7. Identification of any requirement for and availability of expert scientific advice.

There is no need foreseen for expert scientific Advice. Published research documents by international bodies will be referred in the process of preparing the standard, if found necessary.

8. Identification of any need for technical input to the standard from external bodies so that this can be planned for.

The technical inputs from ISO, International Pepper Community, American Spice Trade Association, European Spice Association and from pepper producing countries shall be welcomed as they have already done work related to the subject. Also ISO standards can be used as a step process to frame the codex standards for pepper.

9. Proposed Time Schedule

In case the Commission approves establishment of the proposed **Codex Committee on Spices, Aromatic Herbs and their Formulations**, the following timelines are proposed:

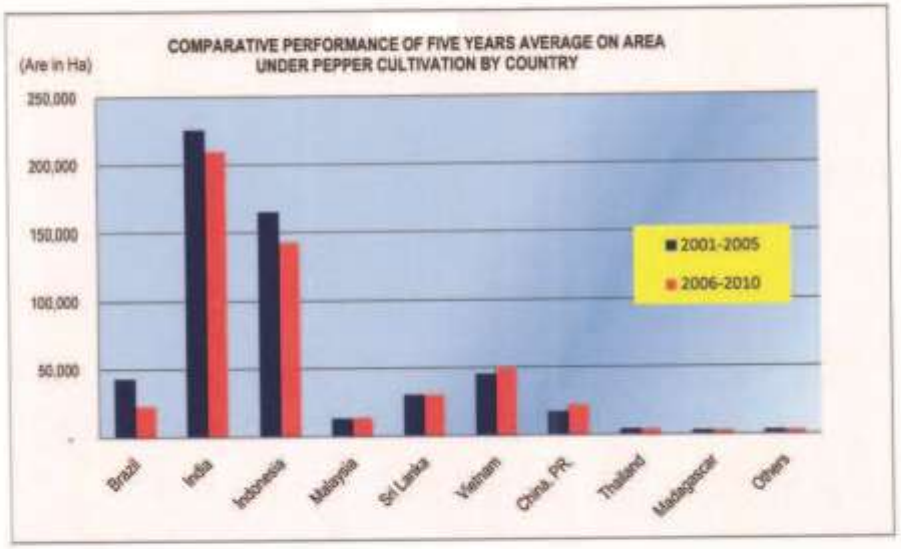
DATE	ADVANCE AND PROCEDURES
Between July 2012 and March 2013	Prepare draft agenda along with new work proposals. These proposals will be prepared through electronic consultation with members to kick start work of the Committee.
June/July 2013	Critical review of new work proposals by CCEXEC Approval of new work proposals by the Commission the process.
First half of 2014	Committee to hold its first session and consider new work items at Step 3 Committee also to consider prioritizing its work.
Second half of 2015	Consider draft standard at Step 5 with the possibility to recommend adoption at Step 8
CAC 2016	Adoption of the standard at Step 8

APPENDIX-I

AREA UNDER PEPPER CULTIVATION BY COUNTRY, 2001 - 2010

(area in hectares)

COUNTRY	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brazil	39,000	41,000	50,000	45,000	40,000	35,000	20,000	20,000	20,000	20,000
India	218,670	222,460	223,060	231,880	231,800	253,730	236,180	196,297	181,299	182,000
Indonesia	159,884	160,606	184,000	171,000	150,000	140,000	142,500	145,000	145,000	145,000
Malaysia	13,400	13,100	13,000	13,000	12,700	12,235	13,023	13,487	13,606	15,000
Sri Lanka	30,794	31,378	31,970	32,437	24,739	29,156	29,976	30,655	30,506	30,714
Vietnam	36,106	42,000	48,800	50,000	50,000	50,000	50,000	50,000	50,000	50,000
China, P.R.	15,700	16,000	17,000	18,000	19,000	20,000	21,000	22,587	23,545	24,000
Madagascar	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Thailand	2,892	2,890	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800
Others	2,500	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
TOTAL:	522,946	536,434	577,630	571,117	538,039	549,921	522,479	487,926	473,758	476,514



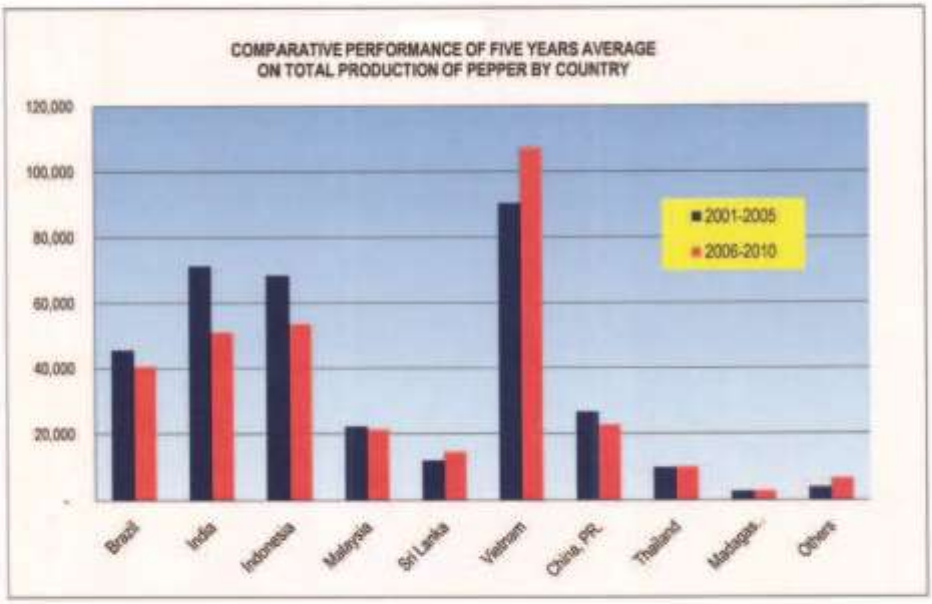
Source: IPC Jakarta

APPENDIX-II

TOTAL PRODUCTION OF PEPPER BY COUNTRY, 2001- 2010 IN MT

COUNTRY	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brazil	43,000	45,000	50,000	45,000	44,500	44,500	42,500	41,000	40,700	34,000
India	79,000	80,000	65,000	62,000	70,000	55,000	50,050	50,100	50,000	50,000
Indonesia	65,000	75,000	80,000	56,000	64,000	52,000	58,000	52,000	50,000	59,000
Malaysia	27,000	24,000	21,000	20,000	19,000	19,000	20,000	22,000	22,000	23,500
Sri Lanka	8,308	13,310	13,274	11,060	13,316	13,575	15,265	13,338	13,762	16,730
Vietnam	61,600	82,500	93,500	110,000	104,500	110,000	93,500	98,970	123,750	110,000
China, PR.	21,700	23,000	33,000	35,000	20,000	18,000	20,000	28,000	22,800	24,800
Thailand	8,820	9,960	9,500	9,500	10,500	10,500	9,800	9,800	9,750	9,750
Madagascar	3,375	2,500	2,500	2,500	2,500	3,000	2,700	2,800	2,800	2,800
Others	2,500	3,000	3,500	4,659	4,770	4,900	5,000	5,000	9,300	7,800
TOTAL	**320,303**	**358,270**	**371,274**	**357,719**	**353,086**	**330,475**	**316,815**	**323,008**	**344,862**	**338,380**

Note : some figures are IPC estimate

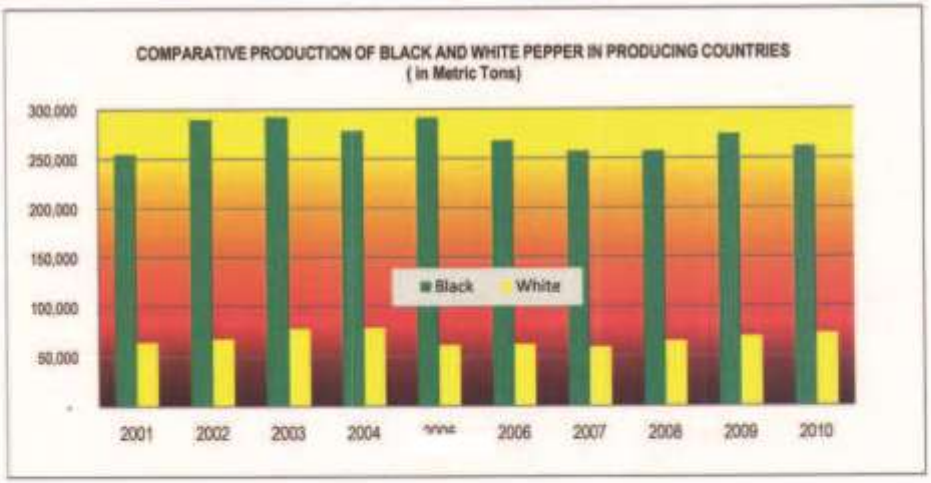


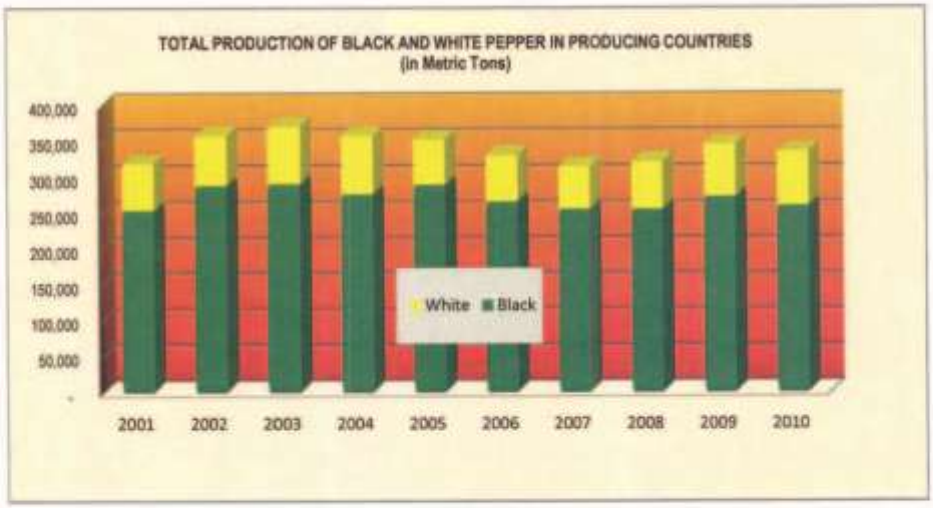
Source: IPC Jakarta

APPENDIX-III

PRODUCTION OF BLACK AND WHITE PEPPER IN PRODUCING COUNTRIES IN MT

PEPPER	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Black Pepper	253,403	286,870	292,574	278,219	291,086	267,975	257,265	257,288	274,462	264,980
White pepper	66,900	71,400	78,700	79,500	62,000	62,500	59,550	65,720	70,400	73,400
TOTAL	**320,303**	**358,270**	**371,274**	**357,719**	**353,086**	**330,475**	**316,815**	**323,008**	**344,862**	**338,380**





Source: IPC Jakarta

APPENDIX-IV

IMPORT OF PEPPER BY PRODUCING COUNTRIES, 2001 - 2010
Quantity in Metric Tons

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brazil	211	232	1,206	202	363	249	550	753	469	450
Cambodia	1	-	-	1	-	0	0	0	0	0
China	5,211	5,245	3,276	4,259	4,777	5,331	4,972	4,891	6,213	5,000
Ecuador	59	48	71	82	76	104	55	132	64	50
India	6,325	15,635	14,564	15,695	18,658	16,897	11,395	14,808	16,022	17,039
Indonesia	3,274	2,283	139	343	844	1,042	1,393	1,255	3,327	3,300
Madagascar	4	1	2	2	1	7	2	4	64	10
Malaysia	2,560	2,779	2,965	4,606	4,969	7,512	3,914	3,133	5,759	2,700
Sri Lanka	12	31	148	34	44	50	47	96	62	60
Thailand	724	832	1,194	74	125	210	631	476	584	500
Vietnam	40	55	1,200	325	60	1,500	3,500	6,800	7,700	17,200
TOTAL	**18,421**	**27,141**	**24,785**	**25,623**	**30,117**	**32,902**	**26,459**	**32,348**	**40,264**	**48,309**

IMPORT OF PEPPER BY PRODUCING COUNTRIES, 2001 - 2010
Value in USD'000

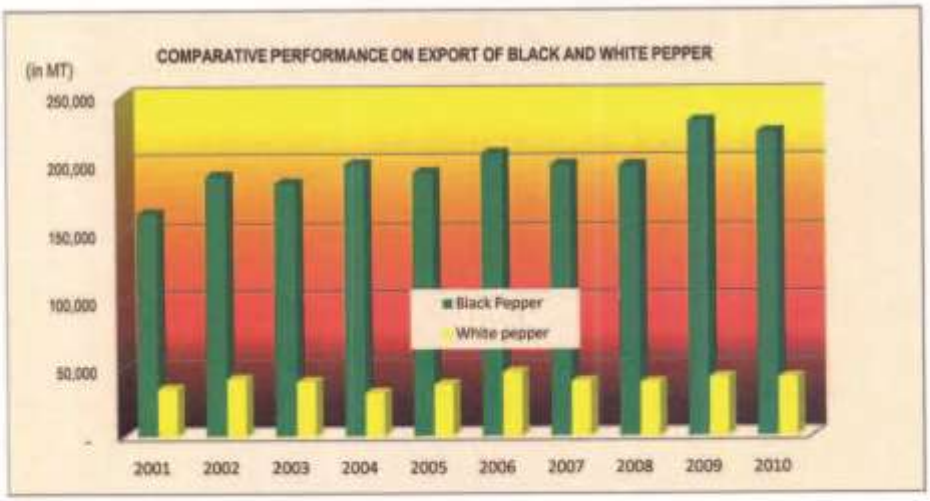
Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brazil	553	517	1,812	529	930	616	2,135	3,632	1,546	2,077
Cambodia	1	-	-	1	-	4	1	2	2	3
China	9,792	7,313	5,288	7,071	8,390	10,150	16,958	19,685	18,643	21,005
Ecuador	183	156	242	240	265	324	198	397	182	199
India	12,572	25,609	21,498	22,346	26,146	31,842	37,687	55,269	42,834	57,405
Indonesia	4,301	3,120	174	333	518	991	727	918	1,529	2,679
Madagascar	5	1	4	2	2	12	9	13	228	50
Malaysia	4,633	4,296	4,878	6,664	8,041	15,236	13,469	10,888	16,288	10,691
Sri Lanka	39	47	304	63	76	171	199	239	134	182
Thailand	1,545	1,410	1,556	308	358	656	2,560	1,722	2,137	2,561
Vietnam	68	54	1,700	820	68	4,000	11,400	23,800	21,300	66,600
TOTAL	**33,692**	**42,523**	**37,456**	**38,377**	**44,794**	**64,002**	**85,343**	**116,565**	**104,823**	**163,451**

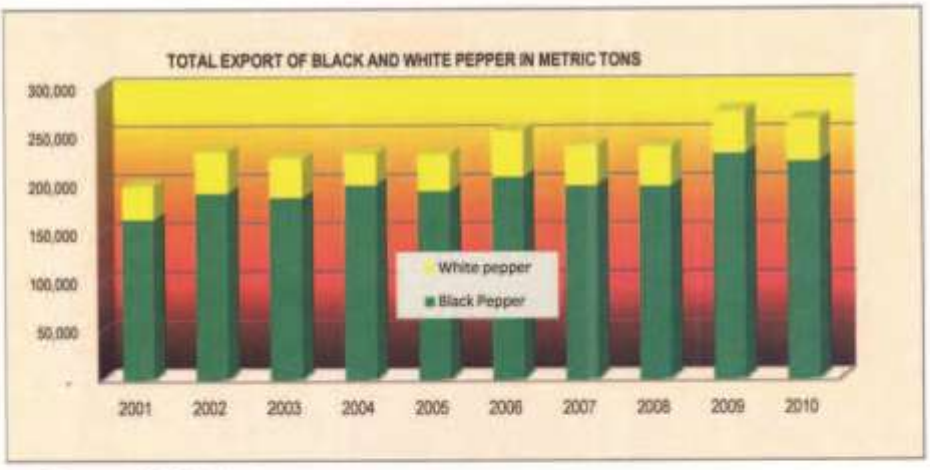
Source: Comtrade

APPENDIX-V

EXPORT OF BLACK AND WHITE PEPPER FROM PRODUCING COUNTRIES IN MT

PEPPER	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Black Pepper	162,404	188,731	183,758	199,406	189,630	206,351	198,559	197,838	230,921	223,264
White pepper	38,881	45,020	41,105	32,005	37,737	53,902	39,752	39,624	42,756	41,990
TOTAL	**201,285**	**233,751**	**224,863**	**231,411**	**227,367**	**260,253**	**238,311**	**237,463**	**273,677**	**265,254**





Source: IPC Jakarta

APPENDIX-VI (1)

IMPORT OF PEPPER BY CONSUMING COUNTRIES, 2001 - 2010
Quantity in Metric Tons

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Afghanistan	-	31	1	-	188	28	1	3	-	1
Albania	38	31	25	25	64	75	46	58	46	50
Algeria	2,296	1,307	2,265	2,316	1,834	2,808	264	324	1,821	830
Angola	-	17	25	12	25	23	27	62	38	45
Antigua and Barbuda	30	3	9	7	27	8	2	2	1	2
Argentina	1,156	1,007	1,180	1,434	1,452	1,444	1,409	1,496	1,369	1,470
Armenia	40	26	50	38	50	64	58	109	94	90
Aruba	-	-	-	-	-	-	-	-	57	20
Australia	2,134	2,417	2,281	2,864	2,644	2,439	2,189	2,913	2,940	2,761
Austria	1,384	2,614	2,186	2,122	2,854	2,900	2,773	2,667	2,743	2,379
Azerbaijan	54	9	16	12	9	16	13	26	22	20
Bahamas	103	25	25	9	59	81	80	80	121	100
Bahrain	395	406	341	424	473	250	532	243	428	410
Bangladesh	-	159	284	379	716	1,155	467	203	181	290
Barbados	79	62	60	45	94	63	95	82	82	90
Belarus	183	157	213	263	204	289	314	357	339	350
Belgium	2,329	3,786	3,593	3,604	3,825	4,015	4,583	3,400	2,945	3,337
Belize	-	2	54	16	22	23	21	19	15	20
Benin	10	2	4	7	-	10	43	70	57	60
Bolivia	76	76	79	98	39	23	46	57	58	60
Bosnia & Herzegovina	120	60	71	181	183	156	180	181	166	144
Botswana	608	383	456	456	456	-	1,373	2,091	2,452	2,030
Brunei Darussalam	30	33	31	18	35	15	13	19	24	20
Bulgaria	520	723	685	746	625	806	709	844	899	1,260
Burkina Faso	2	2	5	2	2	2	2	2	59	22
Cameroon	5	10	9	16	22	24	19	18	71	40
Canada	5,482	5,902	5,847	5,491	5,966	6,152	6,734	6,487	6,184	6,660
Cape Verde	9	5	3	2	14	5	19	16	12	16
Chile	228	62	216	220	276	206	426	1,311	427	740
China, Hong Kong	1,991	2,454	1,446	1,022	842	894	1,067	1,092	967	1,029
China, Macao	44	56	59	65	66	53	73	37	25	45
Colombia	317	101	332	268	326	251	415	332	303	360
Comoros	-	5	1	12	9	5	6	6	2	5
Congo	-	-	-	1	2	5	4	5	5	5
Congo, Dem. Rep.	1	4	23	30	1	9	12	15	29	20
Costa Rica	138	139	104	173	182	352	178	250	259	292
Côte d'Ivoire	165	176	78	12	58	67	38	30	166	80
Croatia	550	569	521	506	521	535	555	563	485	597
Cuba	40	48	62	41	101	34	106	16	4	40
Cyprus	58	65	57	90	47	82	69	51	57	55
Czech Republic	810	800	919	1,006	1,097	1,092	1,305	1,021	1,122	1,160
Denmark	966	1,015	1,069	1,483	1,090	1,253	1,318	1,026	864	1,017

(continued)

Source: Comtrade

APPENDIX-VI (2)

IMPORT OF PEPPER BY CONSUMING COUNTRIES, 2001 - 2010
Quantity in Metric Tons

(continued)

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Djibouti	13	72	267	1	95	80	235	9	26	90
Dominica	83	244	246	48	92	83	66	94	94	90
Dominican Republic	200	234	257	439	411	457	351	560	578	510
Egypt	5,948	5,531	4,312	9,386	6,776	5,942	5,959	3,659	9,245	6,475
El Salvador	302	135	222	290	324	509	250	238	260	255
Estonia	220	195	251	289	302	427	471	459	424	485
Ethiopia	4	68	70	77	82	93	214	794	319	455
Faroe Islands	15	-	-	2	1	1	2	1	2	2
Fiji	15	12	18	15	24	27	36	28	29	30
Finland	426	448	450	438	454	486	500	447	584	450
France	8,587	10,517	10,479	8,693	9,210	9,469	8,732	8,780	8,359	8,880
French Polynesia	25	20	20	15	18	21	16	16	14	16
Gabon	15	12	12	26	21	20	1	1	4	2
Gambia	59	20	45	422	322	466	450	99	65	47
Georgia	23	25	35	87	152	105	153	238	185	200
Germany	19,950	21,491	22,996	27,459	22,731	26,031	31,460	28,084	26,221	28,950
Ghana	49	118	83	183	31	202	67	67	67	70
Greece	1,212	1,121	1,042	1,404	1,318	1,525	1,249	1,151	1,480	1,330
Grenada	1	12	1	9	9	10	21	21	24	23
Guatemala	190	181	211	171	201	240	233	263	230	250
Guinea	1	2	9	-	-	57	26	30	30	30
Guyana	7	25	27	26	38	22	317	28	28	100
Haiti	85	33	-	2	4	5	17	2	2	7
Honduras	289	124	94	125	145	128	242	255	122	215
Hungary	1,055	1,201	1,231	1,008	991	1,175	1,080	1,105	888	979
Iceland	31	29	34	33	38	28	31	40	38	58
Iran	1,365	1,079	1,847	1,827	2,051	79	97	97	82	95
Iraq	-	2	10	4	284	10	1	1	1	1
Ireland	285	308	455	458	443	604	546	595	653	557
Israel	1,046	790	787	829	843	906	941	879	664	850
Italy	3,473	3,768	3,420	4,022	3,646	3,886	3,620	3,437	3,474	3,499
Jamaica	486	294	340	539	1,036	244	496	819	479	329
Japan	8,294	8,667	8,579	8,146	8,993	9,208	9,108	7,781	8,784	8,908
Jordan	382	470	307	590	606	480	387	875	716	452
Kazakhstan	160	238	471	525	608	711	894	506	907	790
Kenya	42	83	54	49	41	47	23	74	47	50
Kiribati	-	-	-	-	-	12	24	24	-	16
Korea, DPRa	20	1	8	54	6	5	8	8	4	7
Korea, Rep.	3,648	3,378	3,576	3,584	4,065	4,526	3,320	4,007	3,927	3,865
Kuwait	400	172	142	105	186	117	121	227	248	205
Kyrgyzstan	-	2	8	7	16	24	12	12	10	12
Latvia	104	106	134	119	125	216	191	101	149	150

(continued)

Source: Comtrade

APPENDIX-VI (3)

IMPORT OF PEPPER BY CONSUMING COUNTRIES, 2001 - 2010

Quantity in Metric Tons

(continued)

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Lebanon	360	248	156	314	183	222	234	321	395	325
Liberia	3	2	5	19	11	5	14	15	10	13
Libya	-	63	151	74	25	1	26	92	92	70
Lithuania	209	197	357	342	384	466	335	351	414	380
Luxembourg	61	59	64	67	55	62	64	64	61	62
Macedonia	134	76	91	123	149	124	47	121	162	110
Malawi	23	37	78	1	2	4	12	9	58	30
Maldives	19	25	85	129	130	157	113	130	144	59
Mali	128	185	293	462	517	764	475	692	692	640
Malta	96	84	68	50	57	76	69	61	81	47
Mauritania	26	-	2	-	7	1	21	175	175	125
Mauritius	103	117	80	97	102	77	83	110	108	100
Mexico	4,468	2,906	1,851	3,263	2,813	2,696	1,865	3,302	2,184	2,525
Moldova, Rep.	19	25	65	128	130	157	113	130	144	135
Mongolia	6	4	3	11	23	5	32	13	15	20
Montenegro	-	-		-	-	-	3	2	22	10
Morocco	1,276	848	2,095	903	1,344	1,521	1,077	1,481	1,835	1,510
Mozambique	-	2	6	13	3	56	22	5	7	12
Myanmar	264	1	5	7	-	-	64	7	2	25
Namibia	122	52	264	359	69	114	133	123	780	185
Nepal	980	1,000	1,917	2,400	1,140	312	440	404	1,741	890
Netherlands	635	20,764	18,936	14,226	13,183	15,409	14,745	13,090	15,765	15,000
New Caledonia	52	35	30	24	31	23	30	43	37	37
New Zealand	349	319	440	395	424	404	437	394	416	451
Nicaragua	87	83	96	72	115	110	155	117	135	140
Niger	8	4	10	18	14	14	12	13	13	13
Nigeria	120	7	775	98	536	865	36	575	575	410
Norway	473	545	571	578	588	625	672	669	377	394
Oman	175	147	221	320	275	251	391	468	563	490
Pakistan	2,435	2,629	5,161	6,814	5,165	6,424	5,332	7,562	6,564	6,680
Palestinian Territory	40	15	50	50	10	1	1	1	1	1
Panama	244	250	239	162	130	141	136	189	157	165
Papua New Guinea	9	4	4	2	2	2	1	2	2	2
Paraguay	35	12	19	18	18	20	8	22	16	16
Peru	865	216	353	354	378	405	393	766	595	600
Philippines	1,142	1,088	663	2,192	2,800	1,995	2,301	3,461	2,902	3,156
Poland	3,286	3,579	4,611	4,575	5,682	5,837	5,863	5,034	5,520	5,640
Portugal	503	423	483	387	307	416	290	308	261	295
Qatar	151	163	154	144	132	214	231	345	345	315
Romania	1,130	1,381	1,606	1,795	1,719	1,862	1,132	1,367	1,442	1,350
Russian Federation	5,330	7,194	6,956	7,698	9,356	10,099	7,473	9,589	9,358	9,070
Saint Kitts and Nevis	5	4	5	5	4	6	6	20	1	10

(continued)

Source: Comtrade

APPENDIX-VI (4)

IMPORT OF PEPPER BY CONSUMING COUNTRIES, 2001 - 2010
Quantity in Metric Tons

(continued)

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Saint Lucia	4	3	9	7	6	8	9	11	5	10
Saint Vincent	4	10	10	9	7	32	10	18	15	15
Samoa	1	2	2	4	18	18	30	26	3	20
Sao Tome & Principe	-	-	2	8	2	1	1	2	1	1
Saudi Arabia	1,858	3,099	2,669	3,362	3,858	3,522	4,394	1,834	2,209	2,900
Senegal	551	1,178	1,470	1,630	2,452	1,811	1,070	1,945	1,803	1,655
Serbia						490	588	497	337	460
Serbia & Montenegro	530	360	197	506	140	-	-	-	-	-
Seychelles	4	10	17	12	15	18	24	13	5	14
Singapore	11,164	10,613	11,350	10,316	12,936	15,847	13,154	13,144	12,437	13,300
Slovakia	485	447	570	581	562	615	663	552	578	615
Slovenia	226	243	206	231	181	195	217	190	171	200
Solomon Islands	-	-	-	1	1	-	14	14	14	15
South Africa	1,355	1,439	1,429	2,174	2,389	2,284	2,377	2,521	2,601	2,575
Spain	7,749	7,184	7,966	9,232	7,991	8,503	7,663	7,727	8,659	6,862
Sudan	573	503	174	95	432	140	90	515	278	300
Suriname	-	11	19	22	54	67	63	32	22	40
Swaziland	29	17	66	90	21	31	18	18	18	20
Sweden	1,388	1,637	1,442	1,495	1,343	1,540	1,866	1,781	1,734	1,850
Switzerland	1,004	1,018	904	814	840	763	869	783	818	1,007
Syrian	276	966	869	1,818	306	733	736	629	695	775
Tajikistan	-	-	-	1	1	1	1	6	6	4
Tanzania	4	7	23	21	64	20	24	42	21	30
Togo	3	-	100	-	-	5	-	-	48	16
Tonga	3	3	4	2	5	4	12	12	12	12
Trinidad & Tobago	143	121	129	145	386	303	344	67	403	280
Tunisia	1,198	537	822	804	663	126	227	953	1,038	662
Turkey	1,518	2,639	3,262	3,095	3,425	3,526	3,039	3,343	3,824	3,500
Uganda	-	3	5	8	13	10	3	6	12	7
Ukraine	2,730	3,237	2,621	3,865	3,908	3,211	3,297	3,646	3,354	3,466
United Arab Emirates	13,000	7,416	10,359	1,514	510	3,422	10,071	10,782	10,782	10,860
United Kingdom	4,910	4,978	5,846	5,464	6,840	9,105	7,201	8,066	7,761	7,900
Uruguay	92	102	99	88	139	95	97	148	123	126
USA	57,813	60,749	63,868	65,990	66,895	70,539	63,941	64,789	65,855	70,470
Uzbekistan	3	-	1	1	144	13	1	1	1	1
Vanuatu	-	-	-	-	-	8	7	7	16	10
Venezuela	279	158	141	239	281	313	579	420	252	430
Yemen	600	-	547	388	1,252	1,016	1,042	1,484	1,826	1,495
Zambia	20	15	4	6	15	32	10	88	22	40
Zimbabwe	105	46	10	132	10	13	3	24	34	20
Others	1	10	3	2	71	-	-	-	12	4
TOTAL	**215,935**	**239,511**	**252,670**	**259,663**	**259,427**	**276,519**	**268,196**	**271,281**	**279,556**	**281,282**

Source: Comtrade

APPENDIX-VII (1)

EXPORT AND RE-EXPORT OF PEPPER BY CONSUMING COUNTRIES, 2001 - 2010

Quantity in Metric Tons

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Afghanistan	-	-	-	-	6	-	-	-	-	-
Albania	14	-	14	-	-	-	17	-	-	5
Algeria	-	-	2	-	-	-	-	-	-	-
Argentina	6	5	1	9	7	8	175	46	29	80
Armenia	-	-	-	3	11	16	17	50	46	40
Australia	87	78	150	173	170	256	126	239	121	170
Austria	439	641	730	589	711	966	972	1,208	1,292	1,593
Bahrain	8	23	6	5	17	14	6	2	13	7
Bangladesh	-	2	28	28	3	-	32	8	4	15
Barbados	4	5	-	1	4	5	5	4	-	3
Belarus	1	7	2	2	-	1	1	8	-	3
Belgium	919	983	996	1,326	1,470	1,782	1,890	1,578	1,424	1,890
Belize	2	50	103	-	3	1	1	6	6	5
Benin	-	-	-	8	8	16	-	-	-	-
Bolivia	14	-	1	-	1	1	1	2	2	2
Bosnia &Herzegovina	-	-	17	23	-	6	1	-	3	1
Botswana	-	-	-	-	-	-	1	-	-	1
Brunei Darussalam	-	-	2	2	2	2	2	2	2	2
Bulgaria	48	31	30	42	53	31	35	194	852	1,057
Cameroon	-	3	9	4	2	3	3	5	7	5
Canada	737	900	863	652	659	424	825	917	772	880
Central African Rep.	6	-	-	-	-	-	7	-	-	2
Chile	15	38	1	2	-	-	1	1	-	1
China, Hong Kong	1,610	1,939	735	398	341	426	351	365	363	699
China, Macao	-	-	-	4	4	-	-	2	-	1
Colombia	74	20	-	-	9	17	136	50	-	65
Congo	-	-	-	-	-	-	-	3	-	1
Costa Rica	88	101	82	33	23	26	11	17	38	65
Côte d'Ivoire	25	16	5	5	2	22	31	7	9	15
Croatia	66	88	55	39	37	37	39	58	58	62
Cyprus	-	-	-	1	5	-	-	-	-	-
Czech Republic	99	83	128	132	115	193	215	192	153	190
Denmark	91	77	132	100	141	168	97	123	37	41
Dominica	25	51	89	98	37	21	9	19	1	10
Egypt	11	3	18	34	12	77	73	73	1,136	440
El Salvador	192	162	149	215	273	335	269	144	192	210
Estonia	66	42	114	113	139	185	163	148	153	160
Ethiopia	82	231	551	250	688	258	416	105	197	250
Fiji	5	6	12	11	3	-	-	2	1	1
Finland	4	7	15	9	8	27	12	2	2	2
France	1,241	1,539	1,086	942	1,301	1,375	1,711	2,449	2,966	2,500
Gambia	1	9	-	-	-	2	121	-	14	13

(continued)

Source: Comtrade

APPENDIX-VII (2)

EXPORT AND RE-EXPORT OF PEPPER BY CONSUMING COUNTRIES, 2001 - 2010

Quantity in Metric Tons

(continued)

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Germany	3,832	4,756	7,802	8,736	8,372	9,801	9,385	14,349	11,503	11,129
Ghana	1,894	2,000	2,977	1,500	2,006	1,500	1,522	1,372	1,372	1,500
Greece	188	123	163	164	162	72	47	63	77	65
Grenada	0	9	9	1	0	0	0	0	0	0
Guatemala	425	220	130	433	352	100	302	298	528	400
Guyana	247	324	328	300	253	254	152	193	193	180
Honduras	638	240	542	495	451	592	444	384	568	490
Hungary	45	17	24	34	29	12	85	94	22	32
Iran	200	454	43	48	38	130	44	70	70	65
Ireland	-	3	1	3	6	13	12	10	13	17
Israel	5	5	1	3	135	27	91	157	214	160
Italy	593	537	702	749	619	699	607	747	644	574
Jamaica	33	95	26	32	15	9	22	23	94	131
Japan	29	60	58	61	84	120	134	123	105	125
Jordan	63	42	36	60	54	28	3	173	40	75
Kazakhstan	10	2	-	-	-	-	22	4	-	9
Kenya	-	19	22	13	51	82	144	115	82	120
Kuwait	-	1	1	1	15	-	-	-	4	1
Kyrgyzstan	-	-	28	63	7	-	-	26	102	45
Latvia	21	20	23	23	15	32	57	36	84	60
Lebanon	-	2	1	1	5	8	-	3	15	8
Lithuania	13	28	42	74	71	105	78	53	50	60
Luxembourg	6	-	-	-	1	1	1	1	1	4
Macedonia	20	11	10	3	24	3	16	15	30	20
Malawi	273	714	919	52	91	139	263	856	694	635
Mali	1	3	9	4	12	4	1	54	54	40
Malta	-	-	1	-	-	-	-	-	-	-
Mauritius	28	45	18	31	19	112	54	102	54	75
Mexico	4,658	4,344	3,861	5,785	4,485	6,593	4,081	5,376	6,175	5,470
Morocco	8	13	93	75	60	43	95	54	125	95
Myanmar	-	-	364	27	40	27	-	-	-	-
Namibia	-	9	34	34	195	0	1	27	5	21
Nepal	4	-	-	32	32	32	32	2	-	10
Netherlands	899	15,007	12,899	10,357	10,417	11,655	11,342	9,705	9,974	10,900
New Zealand	5	4	5	9	14	18	11	9	18	13
Nicaragua	20	82	41	2	-	-	-	-	-	-
Niger	1,167	1,349	801	236	514	832	376	802	802	690
Norway	2	4	12	7	8	12	15	15	5	3
Oman	13	7	-	-	5	-	-	1	14	5
Pakistan	-	23	-	-	-	-	15	64	31	45
Panama	27	10	19	24	-	-	-	-	-	-
Paraguay	-	-	8	-	-	-	-	-	-	-

(continued)

Source: Comtrade

APPENDIX-VII (3)

EXPORT AND RE-EXPORT OF PEPPER BY CONSUMING COUNTRIES, 2001 - 2010

Quantity in Metric Tons

(continued)

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Peru	256	166	62	168	103	213	108	12	32	50
Philippines	31	21	13	14	18	20	22	130	92	146
Poland	257	142	228	474	1,128	1,274	1,444	1,519	1,400	1,525
Portugal	7	15	20	33	15	17	39	27	27	30
Qatar	-	-	-	6	-	1	-	-	-	-
Republic of Korea	80	117	42	74	39	98	23	24	11	20
Romania	-	2	10	14	2	5	3	5	64	25
Russian Federation	230	282	255	296	299	281	287	271	210	270
Rwanda	-	-	-	-	-	6	-	1	18	6
Saint Lucia	306	249	157	144	44	45	41	27	26	30
Saint Vincent	-	208	518	238	27	129	8	-	-	2
Saudi Arabia	69	171	172	282	477	124	108	45	45	70
Senegal	2	1	-	3	1	55	66	27	-	30
Serbia						77	55	56	46	59
Serbia & Montenegro	10	24	5	19	480					-
Singapore	41,025	32,095	23,267	17,659	12,190	15,231	16,007	12,363	9,570	13,000
Slovakia	23	64	59	92	142	82	109	127	33	90
Slovenia	17	22	10	13	26	11	27	29	7	20
South Africa	136	373	501	380	565	947	942	956	1,159	1,070
Spain	407	483	1,196	874	680	631	965	746	807	678
Sudan	-	-	-	-	-	-	-	-	14	5
Suriname	1	1	-	2	-	-	-	-	-	-
Swaziland	3	4	1	-	1	-	93	93	93	95
Sweden	120	105	237	229	200	261	354	358	322	360
Switzerland	45	26	60	735	332	117	94	83	99	98
Syrian	25	11	26	157	157	140	-	-	-	-
Tajikistan	16	5	12	4	5	3	1	1	4	2
Tanzania	232	431	259	331	47	-	30	26	44	35
Togo	-	-	63	-	-	1	-	-	-	-
Trinidad &Tobago	24	42	20	16	12	25	33	8	12	15
Tunisia	52	47	37	16	10	1	-	20	-	7
Turkey	56	36	50	70	64	61	78	68	72	75
Uganda	395	128	25	79	152	75	93	111	127	115
Ukraine	67	106	96	90	106	125	120	136	142	94
United Arab Emirates	1,000	3,703	5,924	1,864	5,083	843	6,268	5,901	5,901	6,325
United Kingdom	1,131	805	764	641	528	564	704	656	755	745
USA	3,569	3,341	4,290	4,414	4,620	5,349	5,329	5,364	5,467	5,590
Uzbekistan	50	28	6	17	14	47	127	231	260	215
Venezuela	-	-	1	-	-	3	-	2	-	1
Yemen	80	-	51	328	106	180	403	596	177	410
Zambia	24	516	103	2	8	66	82	42	65	65
Zimbabwe	57	2,115	1,000	1,692	663	89	70	194	101	125
TOTAL	**71,150**	**83,607**	**77,720**	**86,196**	**63,264**	**66,951**	**71,358**	**73,678**	**70,888**	**75,274**

Source: Comtrade

APPENDIX VIII (A.1)

EUROPEAN SPICE ASSOCIATION(ESA) SPECIFICATIONS OF QUALITY MINIMA FOR HERBS AND SPICES

Subject	
Extraneous matter	Herbs 2%, Spices 1%
Sampling	(For routine sampling) Square root of units/lots to a maximum of 10 samples. (For arbitration purposes) Square root of all containers. e.g. 1 lot of pepper may = 400 bags, therefore square root = 20 samples.
Foreign Matter	maximum 2%
Ash	Refer to ANNEX
Acid Insoluble Ash	Refer to ANNEX
H_2O	Refer to ANNEX
Packaging	Should be agreed between buyer and seller. If made of jute and sisal, they should conform to the standards set by CAOBISCO Ref C502-51 -sj of 20-02-95 (see AnnexII). However, these materials are not favoured by the industry, as they are a source of product contamination, with loose fibres from the sacking entering the product.
Heavy Metals	Shall comply with national/ eu legislation.
Pesticides	shall be utilised in accordance with manufacturers recommendations and good agricultural practice and comply with existing national and /or eu legislation.
Treatments	Use of any EC approved fumigants in accordance with manufacturers' instructions, to be indicated on accompanying documents. (Irradiation should bot be used unless agreed between buyer and seller.
Microbiology	Salmonella absent in (at least) 25 g. Yeast & Moulds 10^5/g target, 10^6/g absolute maximum E Coli. 10^2/g target, 10^3/g absolute maximum Other requirements to be agreed between buyer and seller.
Off Odours	Shall be free from off odour or taste.
Infestation	Should be free in practical terms from live and / or dead insects, insect fragments and rodent contamination visible to the naked eye (corrected in necessary for abnormal vision).
Aflatoxins	Should be grown, harvested, handled and stored in such a manner as to prevent the occurrence of aflatoxins or minimise the risk of occurrence. If found, levels should comply with existing national and / or EU legislation.
Volatile Oil	Refer to ANNEX
Adulteration	Shall be free from.
Bulk Density	To be agreed between buyer and seller.
Species	To be agreed between buyer and seller.
Documents	Should provide:- details of any treatments the product has undergone; name of product; weight; country of origin; lot identification/batch number; year of harvest.

APPENDIX VIII (A.2)

ESA Quality Minima

Product *(whole form)*	**ASH % W/W MAX**	**AIA % W/W MAX**	**H_2O % W/W MAX**	**V/O % V/W MIN**
ANISEED	9 (ISO)	2.5 (AFNOR)	12 (ISO)	1 (ISO)
BASIL (BSI)	16	3.5	12	0.5(ESA)
BAY (ISO)	7	2	8	1
CARDAMOM (ESA)	9	2.5	12	4
CASSIA (ESA)	7	2	14	1.0
CELERY SEED (ISO)	12	3	11	1.5
CHERVIL (ESA)	17	2	8	-
CHILLI (ISO)	10	1.6	11	-
CHIVES (ESA)	13	2	8	-
CINNAMON (ESA)	7	2	14	0.4
CLOVES	7 (ISO)	0.5 (ISO)	12 (ISO)	14 (AFNOR)
CORIANDER	7 (ISO)	1.5 (ISO)	12 (ISO)	0.3 (ESA)
CUMIN (ESA)	14	3	13	1.5
DILL TOPS (ESA)	15	2	8	-
DILL SEED (ESA)	10	2.5	12	1
DUTCH CARAWAY (ISO)	8	1.5	13	2.5
FENNEL SEED (ISO)	9	2	12	1.5
FENUGREEK (ISO)	7	2	12	--
GARLIC POWDER	6 (ESA)	0.5 (ISO)	7 (ESA)	- (ISO)
GINGER	8 (ISO)	2 (ESA)	12 (ISO)	1.5 (ISO)
MACE (ISO)	4	0.5	10	5
MARJORAM (ISO)	10	2	12	1
MINT (ISO)	12	2.5	13	0.5
MUSTARD (BSI)	6.5	1	10	-
NUTMEG	3 (ISO)	0.5 (ISO)	12 (ESA)	6.5 (ESA)
ONION POWDER (ISO)	5	0.5	6	-

APPENDIX VIII (A.3)

OREGANO (BSI)	10	2.5	12	1.5 (ESA)
PAPRIKA POWDER (ESA)	10	2	11	-
PARSLEY (not English) (ESA)	14	1.5	7.5	-
PEPPER BLACK	7 (ISO)	1.5 (ESA)	12 (ESA)	2 (ISO)
PEPPER WHITE	3.5 (ISO)	0.3 (ISO)	12 (ESA)	1.5 (ESA)
PIMENTO				
Jamaica	5 (ESA)	0.4 (ISO)	12 (ISO)	3.5 (ISO)
Other origins	5 (ESA)	1 (ESA)	12 (ISO)	2 (ESA)
ROSEMARY	8 (ESA)	1(ESA)	10 (ISO)	1 (ISO)
SAFFRON WHOLE (ISO)	8	1	12	-
SAFFRON GROUND (ISO)	8	1.5	10	-
SAGE (ISO)	12	2	12	1.5
SAVOURY (ESA)	12	1	12	0.5
TARRAGON (ESA)	12	1.5	8	0.5
THYME	14 (ISO)	4 (ESA)	12 (ISO)	1 (ISO)
TURMERIC				
WHOLE (BSI)	8	2	12	2.5
GROUND	9 (ISO)	10 (ISO)	10 (ISO)	1.5 (ESA)

Index to abbreviations

AFNOR	Association Francaise De Normalisation
BSi	British Standards Institute
ESA	Europian Spice Association
ISO	Indian Standards Institute

Notes on Methodology Used in setting standards

Please refer to the following methods when analysing products:

Moisture	ISO 939
Total Ash	ISO 928
Acid Insoluble Ash	ISO 930
Volatile Oil	ISO 6571

APPENDIX VIII (B)

AMERICAN SPICE TRADE ASSOCIATION (ASTA) CLEANLINESS SPECIFICATIONS FOR SPICES AND HERBS

For purposes of these Specifications, extraneous matter is defined as everything foreign to the product itself and includes, but is not restricted to: stones, dirt, wire, string, stems, sticks, nontoxic foreign seeds, excreta, manure and animal contamination.

The level of contaminants permitted under these Specifications must fall below those shown on the following table, except for the column # "Whole Insects, Dead" which cannot exceed the limits shown.

Cleanliness Specifications	**# Whole insects, Dead**	Excreta, Mammalian	Excreta, Other	Mold	Insect Defiled/ Infested	Extraneous/ Foreign Matter
Name of spice, seed or Herb	By Count	By Mg. / Lb.	By Mg. / Lb.	% By Wgt.	% By Wgt.	% By Wgt.
Allspice	2	5	5.0	2.00	1.00	0.50
Anise	4	3	5.0	1.00	1.00	1.00
Sweet Basil	2	1	2.0	1.00	1.00	0.50 @
Craway	4	3	10.0	1.00	1.00	0.50
Cardamom	4	3	1.0	1.00	1.00	0.50
Cassia	2	1	1.0	5.00	2.50	0.50
Cinnamon	2	1	2.0	1.00	1.00	0.50
Celery Seed	4	3	3.0	1.00	1.00	0.50
Chillies	4	1	8.0	3.00	2.50	0.50
Cloves	4	5	8.0	1.00	1.00	1.00 *
Coriander	4	3	10.0	1.00	1.00	0.50
Cumin Seed	4	3	5.0	1.00	1.00	0.50
Dill Seed	4	3	2.0	1.00	1.00	0.50
Funnel Seed	SF (2)	SF (2)	SF(2)	1.00	1.00	0.50
Ginger	4	3	3.0	SF(3)	SF(3)	1.00
Laurel Leaves**	2	1	10.0	2.00	2.50	0.50
Mace	4	3	1.0	2.00	1.00	0.50
Marjoram	3	1	10.0	1.00	1.00	1.00 @
Nutmeg (Broken)	4	5	1.0	SF(4)	SF(4)	0.50
Nutmeg (Whole)	4	0	0.0	SF(5)	SF(5)	0.00
Oregano ***	3	1	10.0	1.00	1.00	1.00 @
Black Pepper	2	1	5.0	SF(6)	SF(6)	1.00
White Pepper ****	2	1	1.0	SF(7)	SF(7)	0.50
Poppy Seed	2	3	3.0	1.00	1.00	0.50

Rosemary Leaves	2	1	4.0	1.00	1.00	0.50 @
Sage**	2	1	4.0	1.00	1.00	0.50
Savory	21	1	10.0	1.00	1.00	0.50 @
Sasame Seed	4	5	10.0	1.00	1.00	0.50
Sesame Seed, Hulled	4	5	1.0	1.00	1.00	0.50
Tarragon	2	1	1.0	1.00	1.00	0.50 @
Thyme	4	1	5.0	1.00	1.00	0.50 @
Turmeric	3	5	5.0	3.00	2.50	0.50

Cleanliness Specifications - Footnotes:

*** Clove Stems:**	Less than (<) 5% allowance by weight for unattached clove stems over and above the tolerance for Other Extraneous Matter is permitted.
**** Laurel Leaves:**	"Stems" will be reported separately for economic purposes and will not represent a
Sage:	pass/fail criteria.
***** Oregano:**	Analysis for presence of sumac shall not be mandatory if samples are marked "Product of Mexico"
****** White Pepper:**	"Percent Black Pepper" will be reported separately for economic purposes and will not represent a pass/fail creteria.
(2) Fennel Seed:	In the case of Fennel Seed, if 20% or more of the subsamples contain any rodent, other excreta or whole insects, or an average of 3 mg/ lb or more of mammalian excreta, the lot must be reconditioned.
(3) Ginger:	More than 3% moldy pieces and / or insect infested pieces by weight.
(4) Broken Nutmeg:	More than 5% mold/insect defiled combined by weight.
(5) Whole Nutmeg:	More than 10% insect infested and / or moldy pieces, with a maximum of 5% insect defiled pieces by count.
(6) Black Pepper:	1% moldy and / or infested pieces by weight.
(7) White Pepper:	1% moldy and / or infested pieces by weight.
# Whole Insects, Dead:	Cannot exceed the limits shown.
@ Extraneous Matter:	Includes other plant material. e.g. foreign leaves.

GROUND PROCESSED SPICE *
(Cannot exceed limit shown)

Spices	Whole Equivalent Insects	Insect Fragments	Mites	Other Insects	Rates/ Mouse Hairs	Animal Hairs
Ground Paprika		Average of more than 75 fragments /25g			Average of more than 11 rodent hairs/25g	

APPENDIX VIII (B.2)

APPENDIX VIII (C.1)

INTERNATIONAL PEPPER COMMUNITY
GRADES OF TREATED WHOLE PEPPER, BLACK AND WHITE

	QUALITY PARAMETER	BLACK PEPPER		WHITE PEPPER	
		IPC BPT-1	IPC BPT-2	IPC WPT-1	IPC WPT-2
MACRO					
1.	**Bulk Density** (g/l, minimum)	550	500	600	600
2.	**Moisture** (% vol/wt, maximum)	12	12	12	12
3.	**Light Berries/Corns** (% by wt, maximum)	2	10	1	2
4.	**Extraneous Matter** (% by wt, maximum)	1	2	1	2
5.	**Black Berries/Corns** (% by wt, maximum)	Not applicable	Not applicable	1	2
6.	**Mouldy Berries/Corns** (% by wt, maximum)	Nil	Nil	Nil	Nil
7.	**Insect Defiled Berries/Corns** (% by wt, maximum)	1	2	1	2
8.	**Whole Insects, Dead** (by count, maximum)	Not more than 2 numbers in each sub sample and not more than 5 numbers in total sub-samples.		Not more than 2 numbers in each sub sample and not more than 5 numbers in total sub-samples.	
9.	**Mammalian or/and Other Excreta** (by count, maximum)	Shall be free of any visible mammalian or/and other excreta.		Shall be free of any visible mammalian or/and other excreta.	
MICROBIOLOGICAL					
1.	**Aerobic Plate Count** (cfu/g, maximum)	5×10^4	5×10^4	5×10^4	5×10^4
2.	**Mould & Yeast** (cfu/g, maximum)	1×10^3	1×10^3	1×10^3	1×10^3
3.	**Escherichia coli** (MPN/g)	< 3	< 3	< 3	< 3
4.	**Salmonella** (detection / 25g)	Negative	Negative	Negative	Negative

Notes:

1. IPC BPT-1 and IPC WPT-1 are grades for pepper, which has been processed (i.e. has gone through further cleaning processes including sieving, cycloning, destoning, washing and mechanical drying), and has subsequently undergone an internationally accepted treatment process to reduce its microbiological contamination.

APPENDIX VIII (C.2)

2. IPC BP-2 and IPC WP-2 are grades for pepper, which has been partially processed (i.e. has gone through basic cleaning processes like sieving and winnowing), and has subsequently undergone an internationally accepted treatment process to reduce its microbiological contamination.
3. The treatment process shall be undertaken by qualified/trained personnel, and in compliance with internationally accepted standard operation procedures and regulations regarding the process.
4. The treated pepper shall be packaged in suitable, clean and sterile packaging materials, clearly labeled to indicate, inter alia, the treatment process as required by standard regulations, appropriately handled and stored in a clean & well-ventilated store, to protect and maintain the integrity of the product for the entire period of its intended shelf-life.
5. Cfu = Colony-forming unit.
6. MPN = Most Probable Number.

ANNEXURE- XIV (B)

Proposal for new work on CODEX Standards for Rosemary

(dehydrated and extracts)

Proposal Submitted by India

Introduction

Widely used in pharmaceutical and cosmetic industries, rosemary is a herb of great importance and is cultivated predominantly in Europe and Africa. Rosemary is used as a decorative plant in gardens and has antimicrobial properties. It contains antioxidants carnosic acid and rosmarinic acid, and other bioactive compounds including camphor, caffeic acid, ursolic acid, betulinic acid, rosmaridiphenol, and rosmanol. Some of these are found useful in preventing or treating cancers, strokes, and Alzheimer's disease. All these aspects makes this herb a very vital plant from point of human health.

The oil is distilled from the stem and leaves of the plant before it flowers. The leaves, both fresh and dried, are used in traditional Mediterranean cuisine. They have a bitter, astringent taste and are highly aromatic, which complements a wide variety of foods. When burnt, they give off a mustard-like smell and a smell similar to burning wood, which can be used to flavor foods while barbecuing. Rosemary is high in iron, calcium and vitamin B_6, 317 mg, 6.65 mg and 0.336 mg per 100 g, respectively. Rosemary extract has been shown to improve the shelf life and heat stability of omega 3-rich oils, which are prone to rancidity. These properties are very much to be considered in terms of food safety and consumer protection.

1. The purpose and scope of the Standard

The scope of the standard is for Rosemary - *Rosmarinus officinalis* of *Rosmarinus* genus. Rosemary is an aromatic evergreen shrub that has leaves resembles pine needles. Rosemary oil has many general applications as it blends well with other extracts like basil, black pepper, cinnamon, citronella, sage, eucalyptus, geranium, grapefruit, lavender, lemon, litsea cubeba, mandarin, marjoram, niaouli, oregano, peppermint, petitgrain, pine, ravensara, tea tree, thyme etc.

Rosemary oil when distilled from the flowering tops has a clear, powerful refreshing minty-herbal smell with a woody, balsamic undertone. The oil is colourless to slightly yellow with a watery viscosity. Most producers in South Africa cut and distil the entire plant. This oil will have higher camphor content and will be inferior in quality to the above.

The active ingredient in rosemary has pharmaceutical properties. All these aspects make this herb a very vital plant from point of human health.

The objective is to develop a world wide standard based on basic characteristics. The need to have a harmonized standard for rosemary stems from the fact the crop is grown in developing countries in fragmented area by marginal farmers. The marginal farmers do not have the capability to collectively organize to manage the factors which influence their output and therefore the whole food chain will be put to risk by these external factors if these risks are not recognized or mitigated by an international committee under the aegis of CODEX

2. Relevance and Timeliness

With lots of applications in the sustenance of human life, rosemary as a herb has lots of significance. The crop is grown commercially in countries like France, Italy, Spain and Tunisia. Some regions in Asia, The US, Mexico and South Africa also grow this crop. Being a very small crop, reliable production figures of this crop is not officially available. While the herb like rosemary form a small portion in different segments of food, pharmaceutical and cosmetics industry food, the absence of it can alter the identity of the ultimate product. These cannot be clubbed under any other categories like food additives or vegetables as they do not provide functionality; they provide aroma and taste. Despite being only a part of the whole, rosemary has a big impact on the identity of any food.

The impediment on account of non availability of vital statistics on production, export, import and value addition needs to be overcome.

International Standard (ISO 11164:1995), prescribes quality requirements for dried rosemary. But a total harmonization of standards is required since buying entities undertake different standards while effecting purchases which is detrimental to the interest of the marginal farmers and developing nations. The essential oil content of the dried herb is an important factor contributing to the flavour intensity. Whole rosemary leaves should contain a minimum of one to two percent volatile oil, maximum of 10 % foreign matter, maximum of two percent % woody stems, and a maximum of seven % ash.

3. Main aspects to be covered

The standard entails aspects related to the properties of rosemary in dehydrated and extract form incorporating physical parameters, presence of extraneous matters, oil content, safety and labelling in order to provide adequate product characteristics and to protect consumer's health. To supply high quality safe products, the objective of the standards are to:

- Compilation of production, export and import figures for rosemary and its products to overcome the current impediment in sourcing data for standardization and harmonization.
- Establish the minimum requirements for rosemary in its dehydrated and extract from including and in additions to the quality parameters like the physical appearance, uniformity of the product, free from pest and other extraneous matter etc
- Define the categories to classify rosemary in accordance with the characteristics of the herb; such as cut herbs, essential oil, fixed oil ,extracts etc.
- To monitor and strengthen the cross border phytosanitary regulations so that the Pests/microbes do not travel to other countries and cross contaminate the delicate ecosystem of marginal growers of spices and herbs
- Include the provisions to be considered related to the uniformity of the Packaged product and the packaging used.
- Include provisions for the labeling and marking of the product in accordance with the general standard for the labeling of prepackaged foods.
- Establish tolerances regarding quality and size permitted in packaged rosemary.
- Include provisions for hygiene with reference to the recommended international code of practice for hygiene and general principles of food hygiene

4. Assessment against the Criteria for the Establishment of Work Priorities

4.1 General criterion

Consumer protection from the point of view of health and the prevention of fraudulent practices. Quality of the produce to meet consumer needs and the minimum requirements of food safety.Arriving at levels of standardisation based on the properties of different varieties to meet industrial and consumer needs with exactness and credibility. The elaboration of the standard for the forms of rosemary would be to the benefit of many countries in general and more particular in the case of developing countries who export so that their competency could be raised.

4.2 Criteria applicable to commodities

b) Volume of production and consumption in individual countries and volume and pattern of trade between countries:

The world's total production of rosemary is not officially available as the trade figures get clubbed with total figures for herbs and spices. However figures available with the CBI Netherlands **(Appendix I)** point to the fact that rosemary is cultivated in European Union in an area of 158 hectares of which 99 hectares grow organic rosemary. These figures are relating to cultivation of rosemary in countries like Austria, Belgium, Bulgaria, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Italy, the Netherlands, Portugal, Romania, Spain, Sweden and the UK. More areas under rosemary cultivation lie in countries like Tunisia, South Africa, Mexico, Morocco, India etc for which precise data is not available.

Separate figures consumption of rosemary is not available since again the figures get clubbed with spices and herbs. The largest market for herbs is Europe (Germany 19 percent, Romania 14 percent, Hungary 12 percent, the UK 16 percent followed by North America and Asia, according to the Trade Information Brief

of the Southern African Development Community, 2007. The EU market for herbs and spices increased from 265 thousand tones in 2003 to 321 thousand tones in 2007, representing an annual growth of five percent), The demand from the pharmaceutical industry, catering industry, food industry all contribute to the off take of herbs.

Rosemary though is a herb of importance is not discernible as a commodity. There is no fixed standard as such except the basic indication by the ISO. There exist lots of complexities in terms of grades and specification of dehydrated rosemary and rosemary oil and the standards are dictated by he buyer.

b) Diversification of national legislations and apparent resultant or potential impediments to international trade:

Imports of rosemary take place for many applications. It goes for dehydration and distillation in the producing countries. In some cases dehydrated material is imported by processing companies. The consignments are traded based on applications and customer requirement. However it would be preferred that the trade in dehydrated rosemary and rosemary extracts is carried under an International criteria based on Codex Standard. Therefore, the new work would provide internationally recognized specific standards in order to enhance international trade and to accommodate the importers requirements.

Forecasts show that the overall consumption of and trade in rosemary will rise with more application. Any extra addition in production could be well absorbed by the global market on account of the continued demand by processing industries.

International organisations like the European Food Safety Authority, American Spice Trade Association and ISO have been dealt with the standards for rosemary. Many conventions including that of the World Spice Congress and the World Spice Organisation have addressed the issue of harmonisation of grades and specifications for herbs. Rosemary is a herb produced in developing and developed countries. Since the ultimate products in which rosemary oil is an active ingredient addresses health related matters, the importance of hygienic practises come to the fore.

Due to absence of a global harmonised standard for rosemary oil and dehydrated rosemary, and work already undertaken by many other international organization like European Union, incorporation of these aspects under this point is necessary as per the Procedural Manual. Hence, to incorporate all existing disparate standards in a single improved comprehensive standard acceptable across board internationally, the establishment of a Codex standard is seen as a necessity.

As a result, by eliminating the variable (sometimes conflicting) sets of rules and regulations, trade barriers will be reduced and we would gain a comprehensive legal framework for the minimum acceptable standards for rosemary internationally.

c) International or regional market potential:

Global trade figures for rosemary per is not available and the volumes get classified with the total figures of trade in herbs and spices. **(Appendix II)** details exports of medicinal and aromatic plants from East European countries like Albanis, Belaurs, BiH,Croatia, Cyprus etc etc and the table lists HS 1211 for the volume of export of rosemary.

There is considerable demand for Rosemary extracts in the international markets. Value addition is happening in many of the producing countries like France, Spain and India.

There is no available data that indicates total world import and export of rosemary oil. The only available information USA's import statistics. Accordingly annual import of rosemary oil by US is shown below.

IMPORT OF ROSEMARY OIL BY USA /Year	**Import`in MT**
2000	89.56
2001	76.58
2002	124.57
2003	98.21
2004	148.72
2005	109.04

Source; *US Department of Commerce, Horticulture and Tropical products division, FAS/USDA.*

As can be seen for the above import of rosemary oil by the USA, it has shown a general growth. During the period 2000 – 2005 US import of rosemary oil averaged at 107.78 tonnes, with an annual average growth rate of 10%. Assuming that the demand for rosemary oil by the USA accounts for one third of the total global demand, the total global demand is estimated at 323 tonnes per annum.

The following are the major products from this herb:

1. Oil-soluble rosemary extracts: Carnosic acid 5%-90% powder, rosemary oleoresin- Carnosic acid liquid 5%-25%. This is widely used in edible oil, fish oil, oil-rich food, meat, baked food & fried food as natural high effect antioxidant.

2. Water-soluble rosemary extracts: Rosmarinic acid 2.5%-20%. This is widely used in beverage, health food and make up as water soluble natural antioxidant.

3. Rosemary essential oil 100%,: Used for skin care and anti-aging essential oil.

4. Rosemary Leaf Powder

5. Rosemary as fresh herb

According to a new ITC market study, some possibilities exist for exporters of herbs in developing countries to increase their sales to Europe. Imports of dried herbs into four of Europe's largest markets total approximately 12,000 MT to 13,000 MT annually. Although traditional suppliers hold a strong position in this trade, exporters who can offer herbs of consistently high quality that have properties distinguishing them from those of their competitors in terms of flavour, colour and essential oil content should be able to obtain a firm foothold and possibly even command higher prices than current sources of supply.

Imports of dried herbs into the four markets (France, Germany, the Netherlands and the United Kingdom) are estimated to average almost 12,600 tonnes yearly, of which 37% goes to France; 30% to Germany; 21% to the United Kingdom; and 12% to the Netherlands. Over 77% of the imports of herbs into the four markets are of six types: rosemary, sage, oregano, marjoram, mint, and thyme. According to trade estimates, overall demand for herbs in these markets is increasing by 1% to 2% annually in volume. Growth rates differ for the various types. Sales are expected to go up much faster in the industrial food and institutional catering sectors than in the retail trade.

d) Amenability of commodity to standardization:

The characteristics of rosemary, from its cultivation through to harvest, fruit characteristics, cultivar varieties, composition, quality and packaging all lend to adequate parameters for the standardization of the product. This will include defining the herb according to its size, colour and extraneous matters in dehydrated form and colour and density in its extract form.

e) Coverage of the main consumer protection and trade issues by existing or proposed general standards.

There is no general commodity standard coverage for rosemary. The new work will enhance consumer protection and facilitate trade by establishing an international agreed quality standard.

f) Number of commodities which would need separate standards including whether raw, semi-processed or processed.

The standard will be for one commodity rosemary and the standard is to be harmonized for dehydrated rosemary and rosemary extracts. Products to be considered are:

1. Oil-soluble rosemary extracts: Carnosic acid 5%-90% powder, rosemary oleoresin-Carnosic acid liquid 5%-25%.

2. Water-soluble rosemary extracts: Rosmarinic acid 2.5%-20%.

3. Rosemary essential oil 100%

4. Rosemary Leaf Powder.

5. Rosemary as fresh herb

h) Work already undertaken by other international organization in this field.

i) European Commission directives.

ii) CFR – Code of Federal Regulation Title 21 of USFDA.

The need for setting up an international standard for rosemary had come up for discussion in International Organization of Spice Trade Associations (IOSTA), World Spice Congress and World Spice Organization.

5. Relevance to the CODEX Strategic Objectives.

The proposal is in line with the Strategic Vision Statement of the Strategic Plan 2008-2013 aims at setting up international accepted minimum quality requirements of rosemary for human consumption. It also contributes to fair trade practices wherein the farmers will be able to assess their produce with reference to the quality standards thereby empowering them to realize more monetary values.

6. Information on the relation between the proposal and other existing CODEX documents.

This proposal is for a new global standard and has no relation to any other existing CODEX text on this item, except that this standard will make reference to relevant standards and related texts developed by general subject committees.

7. Identification of any requirement for and availability of expert scientific advice.

There is no need foreseen for expert scientific Advice. Published research documents by international bodies will be referred in the process of preparing the standard, if found necessary.

8. Identification of any need for technical input to the standard from external bodies so that this can be planned for.

The technical inputs from ISO, EU, American Spice Trade Association, European Spice Association, World Spice Organization and from rosemary producing countries shall be welcomed as they have already done work related to the subject. Also ISO standards can be used as a step process to frame the codex standards for rosemary.

9. Proposed Time Schedule.

In case the Commission approves establishment of the proposed **Codex Committee on Spices, Aromatic Herbs and their Formulations**, the following timelines are proposed:

DATE	ADVANCE AND PROCEDURES
Between July 2012 and March 2013	Prepare draft agenda along with new work proposals. These proposals will be prepared through electronic consultation with members to kick start work of the Committee.
June/July 2013	Critical review of new work proposals by CCEXEC Approval of new work proposals by the Commission the process.
First half of 2014	Committee to hold its first session and consider new work items at Step 3 Committee also to consider prioritizing its work.
Second half of 2015	Consider draft standard at step 5 with the possibility to recommend adoption at step 8
CAC 2016	Adoption of the standard at step 8

APPENDIX-I

Indication of cultivated area of the selected herbs in the EU*, in hectares and number of growers, 2004

Scietific name	Common name	Total area(ha)	Of which organic area(ha)	Growers (nr)
Anethum graveolens	Dill	777	50	27
Artemisia dracunculus	Tarragon	236	3	1
Foeniculum vulgare	Fennel	672	138	198
Origanum sp	Oregano	85	37	15
Origanum vulgare vulgare	Wild oregano	81	60	14
Petroselinum	Parsley	3,591	2,875	50
Thymus serpyllum	Wild thyme	1	0	0
Thymus vulgaris	Common thyme	624	134	44
Trigonella foenum-graecum	Fenugreek	28	1	2
Anisum vulgare	Aniseed	83	15	69
Mentha spp	Mint	271	32	20
Ocimum basilicum	Basil	834	1505	20
Origanum marjorana	Marjoram	558	25	20
Rosmarinus officinalis	Rosemary	158	99	17
Salvia officinalis	Sage	289	156	58

Source: EHGA (2006)

* Please note that the country selection comprises of: Austria, Belgium, Bulgaria, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, The Netherlands, Portugal, Romania, Slovakia, Spain, Sweden and the UK.

APPENDIX-II

EASTERN EUROPEAN MAP [Medicinal And Aromatic Plants] EXPORT TOTALS

2006 TOTAL MAP EXPORTS / EASTERN EUROPEAN COUNTRIES / Quantities in Kilograms (kg)								
COUNTRY	**HS0904**	**HS0909**	**HS0910**	**HS1210**	**HS1211**	**HS1301**	**HS1302**	**HS3301**
Albania	0	16,929	216,285	40,636	7963,944	252	12,011	4,913
Belarus	529	0	6	5,504	235,876	297.982	11,587	216
BiH	13,087	352,451	16,208	0	615,386	0	20	2,402
Croatia	167,274	4,629	45,140	569	1,533,385	550	3,339	9,649
Cyprus	0	0	2,863	0	152,853	21,754	0	74,958
Estonia	245,608	14,871	130,936	218	10,438	0	321	278170
Finland	41,929	?	100,273	0	8,744	78	63,185	25,235
Latvia	34,927	14,865	198,473	20,790	1,946,515	0	10,876	2,084
Lithuania	127,448	1,079,303	218,979	2,162	242,956	9,374	154,375	243,084
Macedonia	26,122	1,049,389	4,142	0	810,249	2,174	2,779	1,611
Moldova	24	55,450	0	0	174,149	256	0	120,204
Romania	7,184	6,830,597	7,055	0	958,804	979	46,950	113,936
Serbia	2,161262	638,334	94,942	19,287	1107,124	241	14,121	12,040
Slovenia	17332	19085	18222	1530910	89788	2736	50741	133347

HS 0904: Includes fruits of the *Capsicum*, *Pimenta* and *Piper* genera
HS 0909: Includes anise fruit, caraway fruit, coriander fruit (*Coriandrum sativum*), cumin fr uit (*Cuminum cyminum*), fennel fr uit (*Foeniculum vulgare*) and juniper fr uit (*Juniperus communis*), among other s
HS 0910: Includes ginger rhizome (*Zingiber officinale*), saffron stigma (*Crocus sativus*), Thyme herb (*Thymus vulgaris*), turmeric rhizome (*Curcuma longa*), and wild thyme herb (*Thymus serpyllum*), among many other s
HS 1210: (*Humulus lupulus*)
HS 1211: Includes licorice root (*Glycyrrhiza* spp.), mint leaf (*Mentha* spp.), **rosemary leaf** (*Rosmarinus officinalis*), sage leaf (*Salvia* spp.), among hundreds of other medicinal herbs
HS 1301: Includes tree gums and other gums and oleoresins
HS 1302: Includes saps and extracts of MAPs
HS 3301: Includes all essential oils obtained from MAPs