



**JOINT FAO/WHO FOOD STANDARDS PROGRAMME  
CODEX COMMITTEE ON SPICES AND CULINARY HERBS**

**3<sup>rd</sup> Session**

**Chennai, India, 6 -10 February 2017**

**PROPOSALS FOR NEW WORK**

**Replies to CL 2015/27-SCH by Egypt, Indonesia and Iran**

**Background**

1. The Second Session of the Codex Committee on Spices and Culinary Herbs (CCSCH2)<sup>1</sup> noted that the in-session Working Group (CRD2) had assessed the eight (8) new proposals for new work, submitted in response to CL 2014/4-SCH according to the prioritisation criteria as set the Procedural Manual and grouped them into three categories:

- a) *Recommended for approval, i.e. projects that met the requirements laid down in the Procedural Manual (in order of priority)*
  - i. Dried or Dehydrated Ginger (Nigeria)
  - ii. Dried Chilli Peppers and Paprika (India and Argentina)
  - iii. Dried Garlic(India)
- b) *Conditional approval, i.e. projects which require minimal changes before approval (in order of priority)*
  - i. Basil (Egypt)
  - ii. Saffron (Islamic Republic of Iran)
  - iii. Nutmeg (Indonesia)
- c) *Returned for redevelopment projects, i.e. which need substantial changes*
  - i. Coriander (Egypt)
  - ii. Cloves (Nigeria)

2. CCSCH2 agreed that no work had been finalised and, therefore, it was not possible to initiate work on new items; and that the above prioritised list would be used for sending proposals for new work to the Commission unless a need to address an emergency or a consumer safety issue arose in global trade. It was further agreed that work on prioritization would continue under the current arrangements (in-session WG) due to the resource implication of establishing a physical WG.

3. CCSCH2 further noted that project documents recommended for approval could be revised to provide updated information and resubmitted with an explanatory note to the effect.

**New Proposals**

4. The following proposals were received in response to CL 2015/27-SCH:

- Basil (Egypt) (Annex I)
- Coriander (Egypt) (Annex II)
- Nutmeg (Indonesia) (Annex III)
- Saffron (Iran) (Annex IV)

**Action**

5. CCSCH3 is requested to consider the four proposals with a view of recommending their inclusion in the priority list.

<sup>1</sup> REP16/SCH paras 44-54

**PROJECT DOCUMENT**  
**PROPOSAL FOR NEW WORK ON CODEX STANDARD FOR BASIL**  
**(Proposal submitted by Egypt)**

**Introduction**

Basil, Thai basil, or sweet basil, is a common name for the culinary herb Basil which belongs to the family *Lamiaceae*, in the genus: *Ocimum*. Its scientific name is "*Ocimum basilicum*". Basil herb is one of the oldest and popular herbal plants brimming with notable benefiting phytonutrients. This highly prized plant is revered as "holy herb" in many traditions all around the world. ". Basil is considered the "king of herbs" by many cookery authors. Basil is native to India, China, Southeast Asia and Iran. It was originally domesticated in India, having been cultivated there for more than 5,000 years, now it is found in most tropical parts of the world.

The most common varieties of basil are treated as annuals, some are perennial in warm, tropical climates, The various basil varieties have such different scents because the herb has a number of different essential oils that come together in different proportions for various breeds (eugenol, citral, limonene, camphor, anethole).

The objective of this work is to develop a Codex standard based on measurable characteristics, specifically quality criteria and any other factors for developing an international document to protect consumer's health and facilitate the international trade.

**1. The Purpose and Scope of the Standard**

The scope of the work is to establish a worldwide standard for dried and/or dehydrated whole, crushed or ground basil leaves (*Ocimum spp.*) of the family *Lamiaceae* to be offered industrial food production and direct consumption, including for catering purposes or for repacking, as required. The standard will cover all species and varieties of basil of commercial interest.

**2. Relevance and Timeliness**

Basil is widespread in Asia, Africa as well as central and Southern America. It appears to have its centre of diversity in Africa. Today Basil is cultivated in many Asian and Mediterranean countries. Basil is cultivated extensively in France, Egypt, Hungary, Indonesia, Morocco and the United States of America. The United States crops are considered to be of the highest quality, producing the finest odour. USA is the one of the biggest producer and importer. To develop a worldwide standard will help to protect consumer's health and to facilitate fair trade.

**3. Main aspects to be covered**

The standard will cover characteristics related to identification and quality in all aspects as well as safety requirements.

- Product definition: Defining the product as dried and / or dehydrated basil's leaves including all species and varieties of basil (*Ocimum spp.*) of commercial.
- Style: Listing the different forms of the dried basil leaves (whole, crushed, and powdered).
- Composition: Including provisions for basic ingredient and other permitted ingredients. Establishing moisture, ash and volatile oil content as well as other values of the dried basil leaves.
- Quality criteria : Including provisions for colour , odour , flavour etc
- Provisions for the labelling and marking of the product in accordance with the CODEX standard for the labelling of pre-packaged foods.
- Provisions for hygiene, contaminants, and pesticides residues with reference to pre-existing Codex documents.
- References to Methods of Analysis and Sampling.

**4. Assessment against the criteria for the Establishment of Work Priorities****General Criterion**

Consumer protection from the point of view of health, food safety, ensuring fair practices in food trade and taking into account the identified needs of developing countries.

The proposed new standard will meet this criterion by:

- Promotion of consumer protection and the prevention of fraudulent practices.

- Providing greater assurance of the product to meet consumer needs and the minimum requirements for food safety
- Arriving at levels of standardization based on the properties of different to meet industrial and consumer needs with exactness and credibility.

In addition, the elaboration of the standard 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 basil.

### **Criteria applicable to commodities**

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

Country	Trade 2013	
	Import (MT)	Export (MT)
China	98,537	199,424
Hong Kong, SAR China	95,279	3,234
United States of America	72,147	13,454
Germany	56,688	21,270
Madagascar	49,311	71,141
Viet Nam	33,285	7,858
India	30,015	87,731
Japan	28,440	44
Korea, Republic of	27,213	314
Spain	18,710	13,982
France	17,122	6,562
Netherlands	15,853	3,343
Malaysia	15,446	2,340
Mexico	14,693	27,242
Canada	14,186	1,295
Singapore	13,453	1,884
Italy	11,388	2,641
United Kingdom	11,155	1,315
Thailand	10,497	8,831
Russian Federation	10,052	1,087
Pakistan	9,970	18,377
Poland	8,809	14,732
Egypt	6,862	41,664

Sources: ITC calculations based on UN COMTRADE statistics.

#### **Pattern in international trade**

Import	World (MT)
2009	558,101
2010	588,304
2011	594,303
2012	611,575
2013	820,177

Sources: ITC calculations based on UN COMTRADE statistics.

Export	World (MT)
2009	546,145
2010	568,738
2011	658,888
2012	613,772
2013	820,162

Sources: ITC calculations based on UN COMTRADE statistics.

The global trade of Basil as total export and import in 2013 is to be (820,162MT – 820,177 MT) respectively as the major exporters was China, India, Madagascar, Egypt, Mexico; while the major importers was China, including Hong Kong SAR China, USA, Germany, Madagascar. [Sources: ITC calculations based on UN COMTRADE statistics].

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

Imports and exports of basil take place for many applications. However, it would be preferred that the trade in basil 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 importer's requirements.

International organizations like the European Spice Association and ISO have dealt with the standards for basil. 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.

**(c) International or regional market potential**

The world market for imported Basil in 2013 was valued at 3,086,654 (USD thousands) and the exported ones was 2,829,966(USD thousands), China contributes about 25% of the export market in 2013.

Basil shows an international growth in quantity exported between 2012 and 2013 (613,772- 820,162) MT respectively by percentage of 25%.

**(d) Amenability of commodity to standardization**

The standard will include the characteristics of dry and/or dehydrated basil's leaves including all species and varieties of basil cultivar varieties, composition, quality and packaging criteria.

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

There is no general commodity standard covering basil. The new work will enhance consumer protection and facilitate trade by establishing an international agreed and recognized quality standard.

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

The proposed standard will cover the dried and / or dehydrated basil's leaves. The different forms of basil like whole, crushed, and powdered.

**(g) Work already undertaken by other international organizations in this field**

- i. ASTA's Cleanliness Specification for spices, seeds and herbs –USA (2007)
- ii. Quality Minima Document of ESA (Rev.4) – December 2011
- iii. ISO Standard for Dried sweet basil (*Ocimum basilicum* L.) – Specification (ISO 11163:1995)

**5. Relevance to CODEX strategic objectives**

The proposal is consistent with the Strategic Plan of the Codex Alimentarius Commission 2014-2019, in particular, Strategic Goal 1 and objectives 1.1, 1.3, 2.3 and 3.1 and aims at setting up international accepted minimum quality requirements of basil for human consumption.

## 6. Information on the relation between the Proposal and other existing CODEX document

This proposal is a new Codex standard and is not related to or based on any pre-existing Codex document. This standard will include references to relevant pre – existing Codex texts developed by general subject committees, as follows:

- *Principles and Guidelines for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997)* “
- *General Principles of Food Hygiene (CAC/RCP 1-1969)*
- Data bases related to the maximum limits for pesticides residues issued by Codex Committee on Pesticides Residues in Food (CCPR).
- *General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193-1995)*
- *Code of Hygienic Practice for Spices and Dried Aromatic Herbs (CAC/RCP 42-1995)*

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

No need for expert scientific advice is foreseen at this stage. Published research documents by international bodies will be referred in the process of preparing the standard.

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

Technical input from the International Standards Organization (ISO), American Spice Trade Association (ASTA), and European Spice Association (ESA) may be sought when developing this standard.

## 9. Proposed Time Schedule

The following is the proposed timetable for the completion of the standard.

DATE	ADVANCE AND PROCEDURES
CCSCH3	Consideration of new work
June/July 2017	Critical review of proposal by CCEXEC; Approval of new work by CAC40
CCSCH4	Consideration at step 3.
June/July 2019	Consideration by CAC 42 Step 5
CCSCH5	Consideration by at Step 6
June/July 2020	Adoption by the CAC43

**PROJECT DOCUMENT**  
**PROPOSAL FOR NEW WORK ON CODEX STANDARD FOR CORIANDER**  
**(Proposal submitted by Egypt)**

### Introduction

Coriander is the dry fruits of *Coriandrum sativum* family Apiaceae, also known as coriander seeds. Coriander is believed to be a native of Egypt, Turkey, East Mediterranean region and Southeastern Europe and grown extensively all over Europe, Middle East, China, India, and Turkey. The word "coriander" in food preparation may refer solely to these seeds (as a spice), rather than to the plant. The seeds have a lemony citrus flavor when crushed, due to terpenes linalool and pinene. It is described as warm, nutty, mild, sweetish, spicy and orange-flavored. The spice seeds have been used since ancient times and now they are an important item of international trade. Coriander is widely used in whole, crushed or ground forms for flavoring purposes. In India, coriander goes into curry powders (25 to 40% of curry's world production) and is used to flavor liqueurs in Russia and Scandinavia, as well as being an important flavoring agent in gin production. Seeds are also used (both whole and ground) in baking, sausages, pickles, candies, sauces and soups. Spice is also employed for the preparation of either the steam-distilled essential oil or the solvent-extracted oleoresin. Both products can be used in the flavoring and aroma industries.

The variety *Coriandrum sativum* vulgare (large seeds) has a seed diameter of 3–5 mm (0.12–0.20 in), while the variety microcarpum (small seeds) has a diameter of 1.5–3 mm (0.059–0.118 in). Large-seed types (typically grown on the Canadian prairies) are grown mainly by tropical and subtropical countries, e.g. Morocco, India and Australia, and contain low volatile oil content (0.1-0.4%). They are used extensively for grinding and blending purposes in the spice trade. Types with smaller seeds are produced in temperate regions (typically grown in Mediterranean regions) and usually have a volatile oil content of around 0.4-1.8%, so are highly valued as a raw material for the preparation of essential oil. It is commonly found both as whole dried seeds and in ground form.

### 1. The Purpose and Scope of the Standard

The scope of the standard will cover dry and/or dehydrated whole, crushed or ground coriander (*Coriandrum sativum*) of the family [Apiaceae](#) to be offered for industrial food production and for direct consumption, including for catering purposes or for repacking, as required. The objective is to develop a Codex Standard based on measurable characteristics, specific quality criteria and any other factors for developing an international document to protect consumer's health and facilitate the international trade.

### 2. Relevance and Timeliness

Coriander is a traded commodity worldwide, widely used in foods and cooking. Coriander seeds are used as condiments with or without roasting in many kitchens as Indian, Moroccan, Turkish, Mexican and Asian. Coriander seeds hold a prominent position in the Indian kitchen, to flavor many sweet and savory preparations and also in curry powders.

The global production of the coriander seed is estimated to be around 6 lakh tones annually, while the global trade in coriander is estimated to be around 0.85 - 1 lakh tones a year. The major and the largest global producer of coriander seed is India. India contributes around 80% of world coriander seed production. The other large producers are Morocco, Canada, Romania, Russia and Ukraine as well as Iran, Turkey, Egypt, China, USA, Argentina and Mexico.

The major export destination is India which exports around 40000 tons of coriander (30.47% of world export) either in the form of whole seed or in powdered form. Other destinations are Bulgaria, Iran, Italy, Morocco, Syria, Canada, Russia and Ukraine. While the major Import sources are Malaysia, Sri Lanka, India, Indonesia, UK, USA, UAE and Germany.

Increases of international tourism all over the world, the migrations flow, and globalization as well as increasing the food trade worldwide have increased the demand on the spices and herbs resulting in developing and growth in their international trade continuously.

### 3. Main aspects to be covered

The main aspects to be covered by the standard will include minimum quality and safety requirements to protect consumer's health and to facilitate fair trade which includes:

- Defining the quality requirements for the dry and /or dehydrated coriander fruits of (*Coriandrum sativum*) including all species and varieties of coriander of commercial interest including the different forms (styles) of the dried coriander fruits(whole, crushed, powdered)

- Provision for basic composition including moisture, ash and volatile oil content, basic and other permitted ingredients, as well as other values of the dried coriander fruits.
- Provision for general Quality criteria including provisions for color, odor, flavor, etc;
- Provisions for the labeling and marking of the product in accordance with the CODEX standard for the labeling of pre-packaged foods.
- Provisions for hygiene, contaminants, and pesticides residues with reference to pre-existing Codex documents.
- References to Methods of Analysis and Sampling.

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

##### General Criterion

**Consumer protection from the point of view of health, food safety, ensuring fair practices in the food trade and taking into account the identified needs of developing countries.**

The proposed new standard will meet this criterion by:

- Promotion of consumer protection and the prevention of fraudulent practices.
- Providing greater assurance of the product to meet consumer's needs and the minimum requirements for food safety
- Reaching levels of standardization based on the properties of different varieties to meet industrial and consumer's needs with exactness and credibility.

In addition, the elaboration of the standard would be for the benefit of many countries in general and developing countries in particular. In the developing countries, there are the major producers, exporters and consumers of coriander.

##### Criteria applicable to commodities

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

The global production of coriander seed is estimated to be around 6 lakh tones. However, official estimates are rarely available for this crop in most producing countries. Additionally, coriander is widely grown in home gardens on a small scale, which is never included in official statistics. The key to making sense of the coriander market is to realize the capacity of specific producing countries to market. India is a significant producer of coriander with an annual production averaging around 4 lakh tones (80% of the global production). India is the biggest producer, consumer and exporter of coriander in the world.

Table (1) indicates that the production of coriander seed in India is increasing gradually, while table (2) indicates that the monthly average domestic prices of the coriander seed have increased annually (2009-2015)

**Table 1: Indian Production of Coriander Seed**

Year	2008-09	2009- 10	2010-11	2011-12 (prov.)	2012-13 (Esti)
Production in Tones	471515	501485	372366	428687	503240

**Table 2: Monthly Average Domestic Prices in India (\$/tn)**

Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Monthly average domestic prices in India (\$/tn)	684,03	573,06	814,59	877,97	1291,38	1803,70

Indian Coriander (INDORI) Mumbai

**Pattern of International Trade**

**Table3: Worldwide Export Data**

Year	Export Quantity in Tones	Growth Rate in Export Quantity (%)	Value in USD 1000	Growth Rate in Export Value (%)
2010	112,089		156,119	
2011	128,384	14.5	146,390	-6
2012	68,299	-46.8	116,133	-20.7
2013	127,431	86.6	153,084	31.8
2014	153,174	20	222,319	45

Sources: ITC calculations based on UN COMTRADE statistics

**Table4: Worldwide Import Data**

Year	Quantity Imported in Tones	Growth Rate in Import Quantity (%)	Value Imported in USD 1000	Growth Rate in Import Value (%)
2010	124,855		113,793	
2011	122,616	-1.8	120,623	6
2012	46,671	-61.9	116,369	-3.5
2013	143,301	207	154,869	33
2014	165,416	15.4	213,501	38

Sources: ITC calculations based on UN COMTRADE statistics

**Table 5: Export Statistics of Coriander Seeds**

Value in USD Thousand							
Exporter	2014	2013	2012	2011	2010	Annual growth In value (2010-2014) (%)	Annual growth In quantity (2010-2014) (%)
World	222,319	153,084	116,133	146,390	156,119	15	8
India	67,734	54,139	36,227	34,011	34,646	20	10
Bulgaria	26,158	17,085	16,994	18,743	18,049	7	-6
Iran	18,498			22,131	28,968	-11	-2
Italy	17,679	12,181	9,654	9,549	8,680	18	15
Morocco	13,641		6,582	9,150	7,884	12	17
Syria	10,686	6,631	5,371	7,103	17,784	36	25
Ukraine	8,114					9	14
Russian Federation	8,104	4,576	508	493	1,909	67	58
Canada	8,080	7,282	4,013	5,349	6,689	7	4
Netherland	4,923	3,887	3,066	3,915	3,174	9	2
Argentina	4,487	3,493	2,924	3,389	1,380	26	29
Ethiopia	3,876	1,692	331	296	168	123	92
USA	3,619	3,453	2,865	3,156	2,487	9	8
Poland	2,991	1,431	1,419	1,278	751	33	16
Spain	2,704	978	1,504	1,279	690	28	28
Germany	2,473	2,134	1,601	1,821	1,733	9	4

Sources: ITC calculations based on UN COMTRADE statistics



**Table 6: Import Statistics of Coriander Seeds**

Value in USD Thousand							
Importers	2014	2013	2012	2011	2010	Annual Growth in Value (2010-2014) (%)	Annual Growth in Quantity (2010-2014) (%)
World	213,501	154,867	116,369	120,623	113,793	17	7
Malaysia	30,102	27,444	13,870	13,690	11,447	30	11
Sri Lanka	19,204	14,828	5,910	9,895	9,492	20	3
India	16,366	7,587	6,615	5,869	5,289	29	23
Indonesia	10,836	10,879	6,593	5,302	4,561	28	12
United Kingdom	10,487	8,032	6,557	8,783	7,178	7	3
USA	9,807	7,044	5,627	5,479	6,317	12	6
UAE	9,643			4,536	4,019	24	9
Germany	9,225	5,739	3,824	5,302	5,228	13	4
South Africa	7,916	4,018	3,807	2,306	3,410	26	10
Egypt	6,846	763	6,483	5,077	2,340	3	-2
Netherlands	6,514	5,565	2,281	3,918	4,501	12	-11
Japan	5,787	4,683	4,322	6,654	6,962	-7	-5
Pakistan	5,570	2,200	2,150	2,954	4,604	1	10
Saudi Arabia	4,452	8,059	3,706	3,774	3,511	13	6
Algeria	4,021	1,945	2,665	1,084	621	54	24
Nepal	3,761	1,481	2,114	1,597	1,482	20	-7

Sources: ITC calculations based on UN COMTRADE statistics

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

Imports and exports of coriander take place for many applications. However, it would be preferred that the trade in coriander 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 importer's requirements.

International Organizations like the American Spice Trade Association, European Spice Association and ISO have dealt with the standards for coriander. 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 development of a Codex standard as per the Procedural Manual.

**c) International or regional market potential**

The annual world growth for the exported coriander seeds between 2010 and 2014 was 15% in value and 8% in quantity, while it was 39% in quantity between 2013-2014. The major exporters are India, Bulgaria, Iran, Italy and Morocco.

The annual world growth for the imported coriander seeds between 2010 and 2014 was 17% in value and 7% in quantity, while it was 40% in quantity between 2013-2014. The major importers are Malaysia, Sri Lanka, India, Indonesia, United Kingdom and USA. The annual growth of both exported and imported coriander seeds worldwide reflects the international demand of this spice.

In India, which is the largest exporter of coriander seeds (30.47% of world exports); the annual growth between 2010 and 2014 was 20% in value and 10% in quantity, while exported annual growth between 2013 and 2014 was 25% in value. In 2014, India exported 41,125 tons of the coriander seeds valued 67,734 USD. The exports have increased significantly in the past few years due to strong demand from the overseas markets. The changing pattern of food consumption especially in developed countries has resulted in good export orders for India.

While Malaysia is the largest importer of the coriander seeds with annual growth between 2010-2014 30% in value and 11% in quantity, the imported annual growth between 2013 and 2014 was 10% in value. Malaysia imported 16,678 tons of coriander seeds in 2014 valued 30,102 USD (According to ITC statistics)

**d) Amenability of commodity to standardization**

The standard will include characteristics of dry and/or dehydrated coriander's fruits including all species and varieties of coriander cultivar varieties, composition, quality and packaging criteria.

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

There is no general commodity standard covering coriander. The new work will enhance consumer protection and facilitate trade by establishing an international agreed and recognized quality standard.

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

The proposed standard will cover the dried and / or dehydrated coriander's fruits. The different forms of coriander are like whole, crushed, and powdered.

**g) Work already undertaken by other international organizations in this field**

- i. ASTA's Cleanliness Specification for spices, seeds and herbs - USA (2007)
- ii. Quality Minima Document of ESA (Rev.4) - December 2011
- iii. ISO specification for coriander (ISO 2255:1996)

**5. Relevance to CODEX strategic objectives**

The proposal is consistent with the Strategic Plan of the Codex Alimentarius Commission 2014-2019, in particular, Strategic Goal 1 (Establish international food standards that address current and emerging food issues) and seeks to establish internationally accepted minimum quality for Coriander for human consumption. This proposal is in accordance with Article (a) of the Statutes of the Codex Alimentarius Commission "protecting the health of the consumer and ensuring fair practices in the food trade".

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

This proposal is a new Codex standard and is not related to or based on any pre-existing Codex documents. This standard will include references to relevant pre - existing Codex texts developed by general subject committees, as follows:

- *General Principles of Food Hygiene* (RCP 1 – 1969)
- *Principles for the Establishment and Application of Microbiological Criteria for Foods* (CAC/GL 21-1997)
- *General Standard for Contaminants and Toxins in Food and Feed* (CODEX STAN 193 -1995) "
- Data bases relating to the maximum limits for pesticides residues issued by Codex Committee on Pesticides Residues in Food (CCPR).

**7. Identification of any requirements for and availability of expert scientific advice**

No need for expert scientific advice has been identified at this stage

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

Collaboration with the International Organization for Standardization (ISO), American Spice Trade Association (ASTA), and European Spice Association (ESA) may be required when developing this standard.

#### 9. Proposed Time Schedule

Once approved, it is expected that the work would take at least 3 sessions of CCSCH to complete.

<b>DATE</b>	<b>ADVANCE AND PROCEDURES</b>
CCSCH3	Consideration of new work
June/July 2017	Critical review of proposal by CCEXEC; Approval of new work by CAC40
CCSCH4	Consideration at step 3.
June/July 2019	Consideration by CAC 42 Step 5
CCSCH5	Consideration by at Step 6
June/July 2020	Adoption by the CAC43

## PROJECT DOCUMENT

### PROPOSAL FOR NEW WORK ON CODEX STANDARD FOR NUTMEG (*Myristica fragrans* Houtt)

#### (Proposal Submitted by Indonesia)

#### Introduction

Nutmeg and mace are important commodities which are widely used in food industries. Generally, nutmeg is used as a natural food flavouring in breads, syrups, beverages, and candies. Nutmeg is the fruit seed of *Myristica fragrans* Houtt plant which is from Myristica family. Visually, it is dried, unshelled, round as well as oval shape. Meanwhile, mace is yellowish to reddish that exists between the flesh and the seed of the fruit. It is already cleaned and dried as well.

Even though nutmeg is originally from the Moluccas Islands in Indonesia, it can be grown in other areas as well such as in Penang Island – Malaysia, the Caribbean (particularly Grenada), Papua New Guinea, Guatemala, Costa Rica, the southern state of Kerala – India, Sri Lanka as well as the Zanzibar island. The largest importing countries of nutmeg are European Union, USA, Japan and India. On the other hand, Singapore and the Netherlands are the biggest re-exporting countries. Each country has its own standards of production and trade, so that it is important to make nutmeg standard harmonization.

The aim of this work is to establish a worldwide quality standard of nutmeg and mace as well as to facilitate the international trade of Nutmeg and Mace.

#### 1. The Purpose and Scope of the Standard

The scope of the standard will cover nutmeg (in whole, crushed and powder form) and mace which are distributed to consumers (most of them are food industries). The standard will be formulated based on quality characteristics like colour, odour, mould, extraneous matter, insect, and moisture content. Chemical content like ash total, acid insoluble ash, essential oil and aflatoxin are also considered

#### 2. Relevance and Timeliness

Nutmeg is one of the oldest traded commodities in the world. The difference interests between the producers and consumers generate the diversity of standards. This causes difficulties in trade, especially in consumer protection. Therefore, the harmonization of standards become important to make a single reference standard. Nutmeg became a universal commodity and is consumed by millions people as well used in many industries such as food industries. Therefore safety and quality standard is needed.

In food industries, nutmeg is used extensively in whole, crushed, powder form as well as oil form. Standard harmonization will reduce the difference of standards among countries that are as producers, re-exports and consumers. Nutmeg standard is very important to be developed as globally accepted standard through harmonization based on its properties. Harmonization of nutmeg standard will become a reference in protecting consumer health and facilitating fair trade. It can be conducted by international agreement as well as consensus among producers, consumers and traders countries.

**Table 1. Nutmeg products and its usage**

Nutmeg Product	Usage
1. Dried whole, ground nutmeg	Flavouring for meat & dairy products (sausages, soups, spice mixes, baked products, eggnog, ice cream etc.)
2. Mace – Dried, whole, ground	Flavouring for sweet foods, cakes, doughnuts, dairy products

#### 3. Main aspects to be covered

The main aspects of the product to be covered in the standard are the minimum quality and safety requirements to protect consumer health and to ensure fair practices in food trade:

- Establish the minimum safety and quality requirements of nutmeg like size, colour, odour, ruptured, wrinkled, uniformity, weight, mould, extraneous matter, insect, broken, moisture content, ash total, acid insoluble ash, calcium (CaO), essential oil and aflatoxin levels.
- Establish the minimum safety and quality requirements of mace like colour, odour, mould, extraneous matter, insect, moisture content and aflatoxin levels.
- Provision the tolerable limit of quality and size allowed in every class.

- Provision for the labelling in accordance with the *General Standard for the Labelling of Pre-packaged Foods*,
- Provision for contaminants maximum levels, pesticide residues and food hygiene in accordance with pre-existing Codex Standards
- Reference to Methods of Analysis and Sampling.

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

##### General criterion

- Protecting consumer health.
- Preventing inappropriate practices.
- Providing greater assurance of the quality of the produce to meet consumer needs and the minimum requirements of food safety.
- Providing a standard for nutmeg and mace commerce.

##### Criteria applicable to commodities

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

According to FAOSTAT, the production of nutmeg, mace and cardamoms has increased in the world. As the picture below that the production of it was 72,475 tonnes in 2009 and became 97,348 tonnes in 2013. The trend of its production is increasing and it is predicted that it will be increased in the coming year.

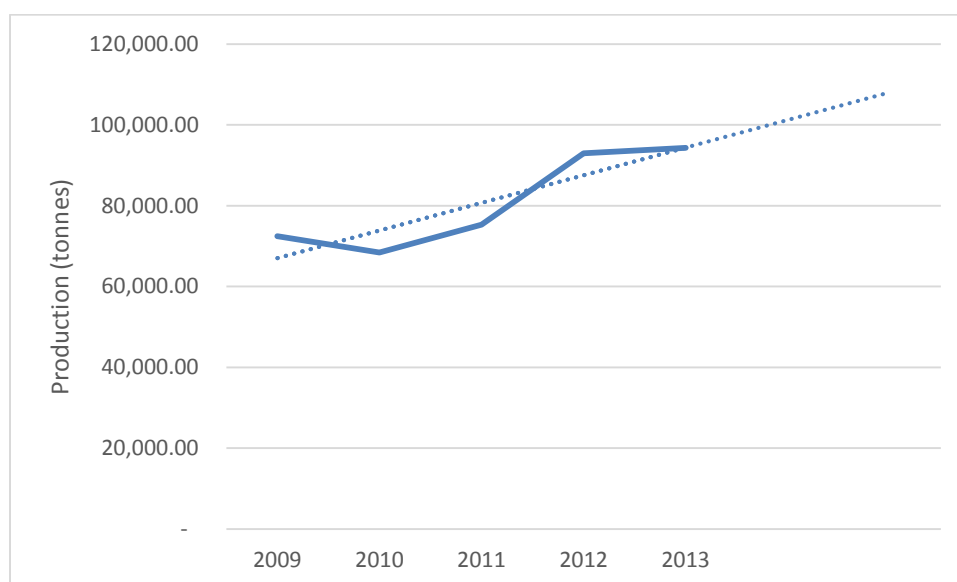


Figure 1. The trend of nutmeg, mace and cardamoms production

Asia is the largest area of nutmeg, mace and cardamoms production. Besides that, it can be grown also in central America. Based on the producer country, most of nutmeg, mace and cardamoms are produced in Guatemala (40 %), Indonesia (27 %), India (17.56 %), Nepal (7 %), Lao (4 %) and others (4 %). A little of nutmeg, mace and cardamoms can be found in Africa as well.

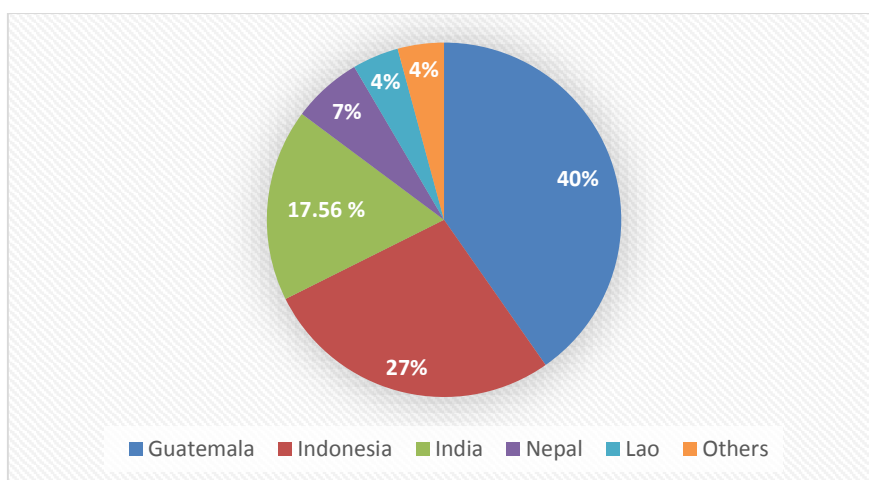


Figure 2. The Biggest Producer Countries

Table 2. The World Nutmeg, Mace and Cardamoms Production during 2009 – 2013

Country	Production (tonnes)				
	2009	2010	2011	2012	2013
Bhutan	1,050.00	1,163.00	650.00	643.00	276.00
Dominica	8.00	10.00	10.00	10.00	11.00
Sri Lanka	480.00	570.00	580.00	550.00	620.00
Guatemala	23,794.00	22,591.00	26,055.00	35,821.00	38,007.00
Grenada	437.00	543.00	573.00	573.00	536.00
Indonesia	16,000.00	15,700.00	19,800.00	25,200.00	25,800.00
Honduras	282.00	243.00	277.00	277.00	347.00
India	15,720.00	15,700.00	15,816.00	18,070.00	16,565.00
Kenya	60.00	60.00	51.00	50.00	50.00
Madagascar	16.00	20.00	15.00	15.00	15.00
Malawi	135.00	100.00	110.00	110.00	114.00
Malaysia	1,672.00	589.00	373.00	73.00	407.00
Lao People's Democratic Republic	4,301.00	4,251.00	3,974.00	3,974.00	3,996.00
Nepal	7,037.00	5,231.00	5,517.00	6,026.00	6,000.00
Papua New Guinea	100.00	80.00	100.00	100.00	107.00
Saint Lucia	51.00	50.00	57.00	57.00	56.00
Saint Vincent and the Grenadines	180.00	287.00	246.00	252.00	240.00
Tanzania	831.00	832.00	679.00	700.00	720.00
Togo	31.00	30.00	25.00	32.00	34.00
Trinidad and Tobago	200.00	228.00	290.00	295.00	292.00
Ethiopia	90.00	150.00	150.00	155.00	155.00
<b>World</b>	<b>72,475.00</b>	<b>68,428.00</b>	<b>75,348.00</b>	<b>92,983.00</b>	<b>94,348.00</b>

The quantity of nutmeg, mace and cardamoms export was higher than that of its import. The trend of export is increasing. It can be seen from the average growth of export quantity during 2009 to 2013, which is 5.49 %. The number of export was 69,226 tonnes in 2009 and became 84,283 tonnes in 2013. Meanwhile the average growth of import was 3.75 %, that was 44,027 tonnes in 2009 and 50,517 in 2013.

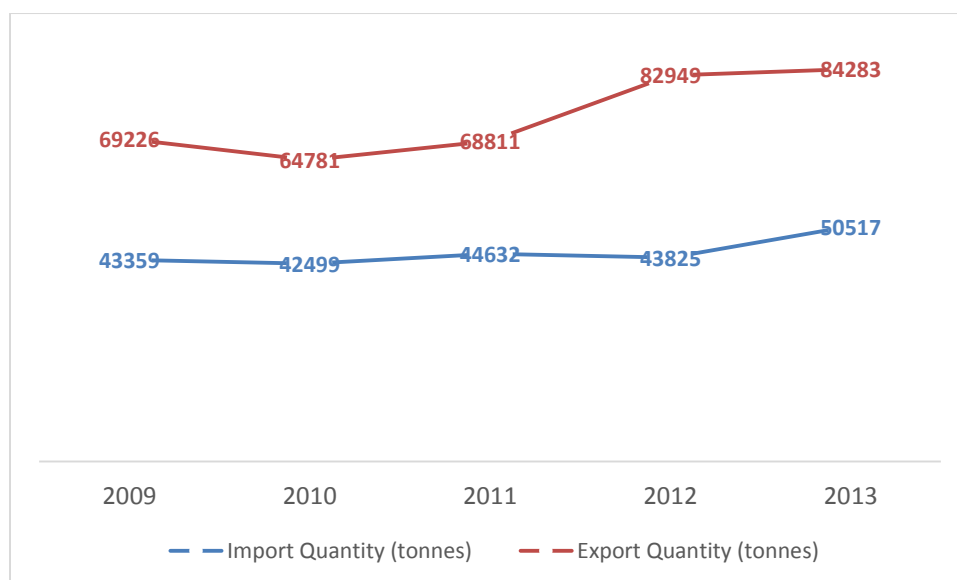


Figure 3. The quantity of nutmeg, mace and cardamoms export and import during 2009 – 2013

Based on FAOSTAT data (2013) Guatemala, Indonesia, India and Nepal were the four largest producer countries. The quantity of nutmeg, mace and cardamoms export from its countries were the biggest as well. In reality, there are countries which do not produce nutmeg, mace and cardamoms, but the quantity of its export were high. For example The Netherlands, Srilanka, Singapore, Germany, etc. The quantity of export from those countries were 2.158 tonnes, 2.013 tonnes, 1.739 tonnes, and 631 tonnes respectively.

Most of importing countries for nutmeg, mace and cardamoms are countries which are in Europe, North America and Middle East. FAOSTAT data (2013) shown Saudia Arabia was the biggest importing country for nutmeg, mace and cardamoms. It was followed by Germany, The Netherlands, India, USA, and UK with the number of import are 128.768 tonnes, 44.897 tonnes, 37.230 tonnes, 36.737 tonnes and 23.200 tonnes respectively.

Table 3. Pattern of International Trade of Nutmeg, Mace and Cardamoms

Year	Import		Export	
	Quantity (Tonnes)	Value (US\$ Thousands)	Quantity (Tonnes)	Value (US\$ Thousands)
2009	43,359	295,146	69,226	524,931
2010	42,499	480,160	64,781	613,219
2011	44,632	633,781	68,811	725,630
2012	43,825	638,499	82,949	708,721
2013	50,517	516,739	84,238	640,823

Source: FAOSTAT data (2013)

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

The international organization like ISO has formulated the standards of nutmeg. Many conventions, such as the International Spice Conference (ISC, 2013) has addressed the issue of harmonization regarding the grade and the specification of nutmeg. Nutmeg has been produced in several countries and traded globally not only by the exporters but also through re-exports by importers. It can be a subject of various national legislations. To overcome the effect of standard difference in international trade, it is essential to incorporate all existing different standards in a single standard which is accepted globally.

### (c) International or regional market potential

The consumption and the total import of nutmeg have increased. It is in line with the increasing of world population and economic development. On average, between 2009 and 2013, 74,010 tonnes and 44,964 tonnes for exports and imports respectively were traded globally. EU and US are the major importing countries for Nutmeg and other emerging markets are Japan, Middle East, and Eastern Europe.

### (d) Amenability of commodity to standardization

The characteristics of nutmeg and mace will include the quality characteristics like size, colour, odour, ruptured and wrinkled, uniformity, weight, mould, extraneous matter, insect, broken, moisture content, ash total, acid-

insoluble ash, calcium (CaO), essential oil and aflatoxin level which should be considered to protect the consumers health and to ensure fair practices in food trade. The quality characteristics of mace are colour, odour, mould, extraneous matter, insect, and moisture content. Its chemical content are ash total, acid insoluble ash and essential oil.

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

There is no general commodity standard covering nutmeg under Codex, so the new work will facilitate nutmeg trade and enhance consumer protection by establishing an internationally quality standard and harmonizing many existing standards.

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

The standard will be for Nutmeg and Mace from *Myristica fragrans* Houtt of the Myristica family.

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

ISO specification for Nutmeg (ISO 6577:2002)

**5. Relevance to the Codex Strategic Objectives**

This proposal is consistent with the Strategic Plan of the Codex Alimentarius Commission 2014-2019, in particular Objective 1.1, 1.3, 2.3 and 3.1 and aims to set up international quality requirements of nutmeg.

**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**

No need for expert scientific advice is foreseen at this stage. Published research documents by international bodies will be referred in the process of preparing the standard.

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

The technical input from ISO might be sought and used in the development of the standard.

**9. Proposed Time Schedule**

The following tentative timeline is proposed, subject to the decisions taken during the Second Session of Codex Committee on Spices and Culinary Herbs:

DATE	ADVANCE AND PROCEDURES
CCSCH3	Consideration of new work
June/July 2017	Critical review of proposal by CCEXEC; Approval of new work by CAC40
CCSCH4	Consideration at step 3.
June/July 2019	Consideration by CAC 42 Step 5
CCSCH5	Consideration by at Step 6
June/July 2020	Adoption by the CAC43







Country	Export Quantity (tonnes)					Export Value 1000 US \$				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Réunion	-	-	-	-	-	-	-	-	-	-
Romania	2	1	26	27	1	12	23	552	374	2
Russian Federation	2	2	6	15	49	21	38	93	135	2
Rwanda	-	-	-	-	-	-	-	-	-	-
Saint Lucia	-	-	-	-	-	-	-	-	-	-
Saint Vincent and the Grenadines	40	-	-	-	41	52	-	-	-	40
Sao Tome and Principe	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	875	408	305	121	-	4.075	3.146	2.034	1.064	875
Senegal	-	5	9	-	-	-	7	10	-	-
Serbia	-	-	1	-	4	2	2	21	3	-
Serbia and Montenegro	-	-	-	-	-	-	-	-	-	-
Seychelles	-	-	-	-	-	-	-	-	-	-
Sierra Leone	-	-	-	-	-	-	-	-	-	-
Singapore	1.887	1.662	1.894	1.739	18.349	30.678	28.251	22.235	12.943	1.887
Slovakia	2	1	3	4	-	11	51	58	63	2
Slovenia	-	1	2	1	13	26	52	88	59	-
Solomon Islands	-	-	-	-	-	-	-	-	-	-
South Africa	11	3	5	22	49	67	48	50	163	11
Spain	183	243	163	240	1.032	833	1.960	2.598	2.985	183
Sri Lanka	2.201	1.885	1.596	2.036	8.329	16.237	26.146	20.061	21.027	2.201
Sudan (former)	-	-	-	-	-	-	-	-	-	-
Suriname	-	-	-	-	-	-	-	-	-	-
Swaziland	-	-	-	-	-	-	-	-	-	-
Sweden	142	106	89	98	2.405	3.733	3.203	2.988	2.587	142
Switzerland	11	24	8	19	157	191	587	157	236	11
Syrian Arab Republic	19	-	-	-	-	60	-	-	-	19
Thailand	10	13	24	7	199	49	49	207	72	10
The former Yugoslav Republic of Macedonia	-	-	-	-	-	-	-	-	-	-
Togo	-	-	-	-	-	-	-	-	-	-
Tonga	-	-	-	-	-	-	-	-	-	-
Trinidad and Tobago	3	-	-	-	5	7	-	-	-	3
Tunisia	-	-	-	-	-	-	-	-	-	-
Turkey	2	8	8	18	22	13	71	68	109	2
Tuvalu	-	-	-	-	-	-	-	-	-	-
Uganda	-	-	-	5	5	1	-	-	1	-
Ukraine	1	2	2	-	11	11	21	25	27	1
United Arab Emirates	-	-	-	-	-	-	-	-	-	-
United Kingdom	114	163	194	174	1.220	1.913	3.147	3.429	3.239	114
United Republic of Tanzania	-	1	-	-	106	-	1	-	-	-
United States of America	270	534	638	525	2.533	2.902	4.297	5.422	4.243	270
Uruguay	-	-	-	-	-	-	-	-	-	-
USSR	-	-	-	-	-	-	-	-	-	-
Vanuatu	-	-	-	-	-	-	-	-	-	-
Venezuela (Bolivarian Republic of)	-	-	-	-	-	-	-	-	-	-
Yemen	-	-	20	-	6	-	-	27	-	-
Yugoslav SFR	-	-	-	-	-	-	-	-	-	-
Zambia	-	-	-	-	-	-	-	-	-	-
Zimbabwe	-	-	-	-	-	-	-	-	-	-

(<http://faostat3.fao.org/download/Q/QC/E>)

## World Import Volume

Country	Import Quantity (tonnes)					Import Value 1000 US \$				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Albania	2	-	2	1	8	9	29	29	10	51
Algeria	59	-	24	43	70	59	-	19	44	132
Antigua and Barbuda	-	-	4	96	4	-	-	21	189	31
Argentina	267	213	319	298	197	1.830	1.931	4.272	4.777	2.465
Armenia	4	2	2	1	1	30	39	26	22	19
Aruba	5	4	5	-	-	5	7	10	-	-
Australia	331	300	273	394	362	2.676	3.032	4.701	5.288	3.726
Austria	270	265	303	267	261	2.806	4.006	6.231	6.405	5.136
Azerbaijan	1	1	1	1	1	1	-	-	16	4
Bahamas	5	-	-	9	5	18	-	-	28	19
Bahrain	142	169	193	219	194	960	1.517	2.673	2.017	1.724
Barbados	13	15	11	17	15	53	54	51	100	94
Belarus	15	16	15	11	21	151	174	220	156	211
Belgium	431	920	708	653	649	10.696	10.953	13.127	12.633	9.069
Belize	-	2	4	3	2	-	4	9	8	8
Bermuda	-	-	-	-	4	-	-	-	-	34
Bhutan	-	-	-	4	-	-	2	-	22	-
Bolivia (Plurinational State of)	5	-	-	7	10	10	-	2	19	36
Bosnia and Herzegovina	-	-	-	-	-	-	-	-	-	1
Botswana	2	-	1	2	-	2	1	1	2	2
Brazil	265	163	224	262	195	1.679	1.317	3.180	3.643	2.248
Brunei Darussalam	-	-	-	-	11	-	-	-	-	92
Bulgaria	13	33	11	17	20	101	433	177	264	226
Burundi	-	-	-	-	1	1	-	-	2	3
Cabo Verde	4	-	3	3	4	32	27	35	45	61
Cameroon	1	-	2	1	-	3	1	6	3	-
Canada	547	578	728	863	805	4.517	6.245	8.804	9.858	8.745
Chile	17	13	23	24	19	125	133	455	433	290
Hong Kong, SAR China	20	17	25	25	41	143	207	441	393	431
China, mainland	29	47	10	24	53	161	337	204	585	1.118
China, Taiwan Province of	180	167	177	177	132	580	554	988	984	692
Colombia	39	34	37	41	35	311	353	518	788	546
Congo	1	1	-	2	8	3	5	-	8	14
Costa Rica	50	50	27	28	33	205	235	153	188	283
Côte d'Ivoire	4	8	1	2	2	17	34	11	16	10
Croatia	65	62	71	51	59	599	764	1.568	1.357	1.277
Cyprus	8	7	7	7	4	52	47	124	36	54
Czech Republic	69	81	122	56	59	688	1.373	2.360	1.688	1.448
Denmark	73	90	87	115	69	918	1.331	1.620	1.743	1.691
Dominica	-	-	-	2	-	-	-	-	10	-
Ecuador	11	4	5	8	8	82	66	86	180	77
Egypt	1.853	-	1.174	-	1.078	5.473	-	8.623	-	9.463

Country	Import Quantity (tonnes)					Import Value 1000 US \$				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
El Salvador	15	8	5	5	6	66	49	45	66	66
Estonia	25	32	53	45	54	324	638	1.308	1.065	963
Ethiopia	99	54	28	87	160	133	86	49	137	302
Faroe Islands	-	-	-	-	-	10	-	-	-	-
Fiji	19	18	17	17	32	151	256	262	213	314
Finland	153	99	138	145	157	1.946	2.678	3.674	1.895	1.414
France	686	848	823	733	805	6.366	10.680	16.057	14.609	13.280
French Polynesia	-	-	-	-	-	14	15	17	11	15
Gambia	-	-	22	-	-	-	-	4	-	-
Georgia	5	1	2	3	7	45	15	48	57	74
Germany	2.306	2.899	2.666	2.779	2.822	20.693	36.584	49.805	53.883	44.897
Ghana	135	168	151	209	226	176	322	227	354	491
Greece	71	49	60	68	64	685	727	1.155	1.156	941
Greenland	-	-	-	-	-	-	-	-	-	9
Grenada	1	-	-	-	-	-	-	-	-	-
Guadeloupe	-	-	-	-	-	-	-	-	-	-
Guatemala	31	75	89	196	175	123	185	291	474	389
Guinea	-	-	-	-	-	-	-	-	-	-
Guyana	-	2	11	8	5	-	22	43	10	23
Honduras	18	-	-	20	-	44	-	-	35	-
Hungary	39	39	39	29	32	401	494	765	666	735
Iceland	2	5	2	3	4	20	45	40	50	69
India	6.316	4.134	4.182	2.109	4.514	19.279	28.499	42.659	21.276	37.230
Indonesia	18	39	86	88	161	36	231	670	833	1.772
Iran (Islamic Republic of)	-	699	997	-	-	-	1.418	1.806	-	-
Ireland	32	36	28	20	17	341	441	443	530	436
Israel	287	335	339	427	378	1.475	2.006	3.483	2.490	1.793
Italy	708	875	1.049	792	1.037	5.545	9.406	16.749	16.068	14.778
Jamaica	65	27	-	43	33	440	220	-	612	626
Japan	922	890	1.112	892	795	9.679	15.873	24.664	22.118	14.437
Jordan	588	408	231	855	2.032	2.009	2.287	2.929	5.305	8.063
Kazakhstan	13	-	12	8	6	52	-	98	70	64
Kenya	14	20	-	-	11	20	59	-	-	89
Kuwait	-	-	-	-	904	-	-	-	-	9.965
Kyrgyzstan	-	-	-	-	-	-	-	1	1	-
Latvia	4	6	4	8	7	54	95	89	157	128
Lebanon	221	114	209	307	238	1.376	1.270	3.279	3.111	1.675
Libya	-	-	-	-	-	-	-	-	-	-
Lithuania	16	15	17	15	10	124	156	247	207	154
Luxembourg	6	9	5	6	2	187	142	185	219	142
Madagascar	-	-	-	-	-	-	-	-	-	2
Malawi	-	-	-	-	-	1	-	1	-	-
Malaysia	528	601	626	451	552	3.926	7.415	7.499	4.414	3.758
Maldives	-	11	13	13	17	-	159	160	167	150



Country	Import Quantity (tonnes)					Import Value 1000 US \$				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Singapore	2.441	1.802	1.822	1.996	1.820	18.903	28.740	29.508	21.127	12.220
Slovakia	11	21	23	24	29	124	231	452	560	425
Slovenia	6	7	6	9	7	83	129	148	288	225
Solomon Islands	-	-	-	-	-	-	-	1	2	2
South Africa	371	358	383	310	286	3.100	4.427	7.075	5.518	4.109
Spain	361	288	318	399	286	2.320	2.760	5.694	6.796	4.959
Sri Lanka	4	99	17	32	70	30	350	255	430	604
Sudan (former)	-	-	-	-	-	-	-	-	-	-
Suriname	-	1	2	-	-	-	3	13	-	-
Swaziland	-	-	-	-	-	-	-	-	-	-
Sweden	349	390	415	289	304	3.267	7.701	10.484	5.654	3.513
Switzerland	197	117	188	142	188	2.218	1.951	4.767	3.499	3.856
Syrian Arab Republic	1.644	1.176	-	-	-	4.781	3.289	-	-	-
Thailand	155	195	188	175	196	943	1.733	2.520	1.846	2.219
The former Yugoslav Republic of Macedonia	-	1	-	-	-	10	20	9	17	10
Togo	2	-	-	-	-	2	-	-	-	-
Tonga	-	-	-	-	-	-	-	-	-	-
Trinidad and Tobago	21	23	-	-	-	138	147	-	-	-
Tunisia	-	1	2	5	5	1	1	2	2	4
Turkey	22	29	35	37	28	82	91	108	140	105
Tuvalu	-	-	-	-	-	-	-	-	-	-
Uganda	-	1	1	14	-	1	1	2	10	1
Ukraine	32	24	60	43	63	296	270	1.008	693	730
United Arab Emirates	-	-	-	-	-	-	-	-	-	-
United Kingdom	1.467	1.483	1.593	1.656	1.585	11.973	16.388	23.969	23.765	23.200
United Republic of Tanzania	10	5	5	4	15	5	2	5	7	7
United States of America	2.397	2.720	3.502	3.794	3.348	18.498	30.652	51.318	46.525	36.737
Uruguay	26	20	13	32	32	177	188	138	432	373
USSR	-	-	-	-	-	-	-	-	-	-
Vanuatu	3	4	-	-	-	9	8	1	-	-
Venezuela (Bolivarian Republic of)	45	24	44	276	4	410	261	778	5.463	106
Yemen	224	-	127	276	542	458	-	297	717	1.702
Yugoslav SFR	-	-	-	-	-	-	-	-	-	-
Zambia	3	2	-	2	-	4	12	-	2	2
Zimbabwe	1	3	1	3	-	4	11	10	9	3

## PROJECT DOCUMENT

### PROPOSAL FOR NEW WORK ON CODEX STANDARD FOR SAFFRON

(Proposal submitted by Iran)

#### Introduction

Saffron is actually the dried stigmas of the *Crocus sativus* L., which flowers just once a year.

It is a perennial stemless herb of the Iridaceae family. Commercial saffron comprises the dried red stigma with a small portion of the yellowish style attached. Since ancient times, saffron has been used as a spice, a fragrance ingredient. The traditional culinary uses of saffron are in rice, chicken and fish dishes, as well as in pasta, bread and pastry, cheese, desserts and beverages.

The main characteristics of saffron are: PICROCROCINE (BITTERNESS), SAFRANAL (FLAVOR), and CROCINE (COLOR).

Saffron is the world's most valuable spice because of its unique properties and all the labor that goes into producing it (more than 170,000 flowers make just one kilogram dried saffron).

Its origin is in Zagros Mountains area in "Mede" era. More than ninety percent of the world's saffron comes from Iran. It has been traditionally grown in Khorasan, an area in the north-east of Iran with ideal soil and climate conditions for the crop. It is also grown in Kashmir, Greece, Morocco, and Spain.

It has been re-exported to all over the world by different countries such as Spain, United Arab Emirates, Sweden, France, Germany, Italy and etc. Each country has its own standard, so the objective of this project is to develop a Codex standard based on technical matters and International trade of Saffron, which ensure protect consumer's health and food safety.

#### 1. Purpose and the scope of the standard

The scope of the work is to establish a worldwide standard for dried saffron obtained from portion of the pistils of *crocus stauvus* L. in forms of filament, cut filament and powder.

The objective of the standard is to consider the essential quality characteristics of Saffron as a spice in many culinary products including for catering purposes or for repackaging, as required to aid international trade in this product.

#### 2. Relevance and timeliness

Due to the growing trend of worldwide Saffron production, re-exporting and trade, it is necessary to establish a commodity standard covering the safety, quality, and hygiene and labeling in order to have a reference that has been internationally agreed by consensus between the main producing and trading countries. The Codex standard for saffron will help to protect consumers' health and to promote fair trade practices in accordance with the different international agreements.

The current and historical significance of Saffron shows, Saffron is the endemic herb which is a strategic product of Iran.

The main producers of saffron are Iran, India, Greece, Morocco, and recently Afghanistan. The main importers are Spain, UAE, France, Italy, Sweden, USA, Argentina, Germany, United Kingdom, Hong Kong, SAR China, Japan, Canada, Australia, Belgium, Oman, Qatar, Kuwait, Saudi Arabia, Singapore, Netherland, Brazil, Morocco, India, Ireland, Japan, Afghanistan, Bangladesh, Bahrain, Yemen, Denmark, Norway, Romania based on ITC data during 2008-2015.

Saffron is a drought tolerant plant that grows in arid and semiarid climate. Economics of this valuable crop from different dimensions such as marketing, employment, household's income, globalization and nonoil export.

#### 3. Main aspects to be covered

The standard will include characteristic relating to the size, form, Categories, purity, contaminants, labeling, packaging as well as safety requirements.

The most relevant items which may be considered are related to:

- Establishing the minimum requirements of saffron which shall be complied with, independently from the quality parameters and other requirements regardless of class.
- Defining the categories to classify saffron in accordance with its characteristics.



- Establishing the tolerance as regards quality, quantity and size that may be permitted in saffron contained in a package.
- Provisions to be considered relating to the uniformity of the packaged product and the packaging used.
- Provisions for the labeling and marking of the product in accordance with the General Standard for the labeling of Prepackaged Foods.
- Provisions for pesticides and contaminants with the reference to the General Standard for Contaminants and toxins in food.
- Provisions for hygiene and handling with the reference to the general principles of food hygiene and other relevant codes of hygiene practices.
- References to methods of analysis and sampling

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

##### General criterion

Consumer protection in case of food safety, health care, fair trade and protecting the needs of developing countries should be taking account.

The proposal new standard will meet this criterion by:

- Promoting consumer protection and preventing of fraudulent practices
- Providing greater assurance of quality of the product to meet consumer needs and minimum requirements of food safety
- Arriving at levels of standardization based on the properties of different varieties to meet industrial and consumer needs with exactness and credibility
- The drafting standard would be beneficial to many countries in general and more particular in the case of developing countries because they are major producers, exporters and consumers of dried saffron.

##### Criteria applicable to commodities:

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

Saffron is one of the most important export products and plays significant role in income and employment of Saffron producers. Iran (96%), India, Greece, Morocco, Spain and recently Afghanistan are among main countries dealing with Saffron production.

Major importer countries of Saffron are Spain, The United Arab Emirates (UAE), Saudi Arabia, France, Sweden, Italy, Germany, United Kingdom, Ireland, China, Japan and etc.

**Table 1- Iran Saffron Production (2010-2015)**

Crop Year	Production Situation	
	Production (tons)	Cultivated Area (ha)
2010-2011	239.244	67,297
2011-2012	254.060	73,118
2012-2013	261.520	79,394
2013-2014	311.073	84,738
2014-2015	280.323	87,930

Reference: Islamic Republic of Iran, Ministry of Agriculture-Jahad, Statistics, Crop Year is from October to October, \*Mirror Data

**Table 2- The Main Cultivation Area of Saffron in Iran (2014-2015)**

Province	Production Situation		
	Production (tons)	Cultivated Area (ha)	Yield (kg / ha)
Razavi Khorasan	218.348	69,407	3.1
South Khorasan	48.019	14,727	3.4
Isfahan	3.271	617	6.1
North Khorasan	2.640	635	4.9
Kerman	2.632	681	5.2
Fars	1.587	529	3.2
Yazd	1.536	401	4.5

Reference: Islamic Republic of Iran, Ministry of Agriculture-Jahad, Statistics

**Table 3- IRANIAN SAFFRON EXPORT (2011-2015)**

Year	Saffron Export	
	Net Weight (tons)	Value (US \$)
2011	114.090	361,617,577
2012	139.223	418,862,315
2013	137.253	200,299,763
2014	158.794	227,629,085
2015	121.573	165,303,063

Reference: Iran Custom Office

**Table 4- The Main Iranian Saffron Export Markets According to Net Weight - (Year 2015)**

Item	Country	Export (tons)	Value (US \$)	Share of Export
1	United Arab Emirates	43.414	65,056,747	35.5%
2	Spain	28.817	38,769,393	23.9%
3	China	11.557	17,583,208	9.5%
4	Saudi Arabia	7.715	9,785,486	6.3%
5	Afghanistan	5.036	7,753,342	4.1%
6	Italy	3.702	6,219,643	3%
7	Hong Kong, SAR China	2.584	3,885,098	2%
8	France	1.711	1,990,102	1.40%
9	Qatar	1.424	2,259,724	1.1%
10	Sweden	1.256	1,792,799	1 %
11	Netherlands	1.002	1,523,405	0.8 %
12	Germany	0.964	1,620,605	0.8 %
13	Kuwait	0.954	1,266,762	0.8 %

Reference: Iran Custom Office

Table 5- Saffron Trade Between Countries- Product: 091020 Saffron

Partners	Balance in value in 2011	Balance in value in 2012	Balance in value in 2013	Balance in value in 2014	Balance in value in 2015	Exported value in 2015	Imported value in 2015
World	107,800	-336	-4,398	133,670	2,422	193,228	190,806
Iran, Islamic Republic of	292,432			233,023	87,560	87,813	-
Portugal	2,368	2,841	8,785	13,254	17,713	21,881	4,168
Afghanistan	2,225	3,824	940	3,645	10,069	10,075	6
China	676	311	515	579	2,204	2,857	653
Greece	913	913	668	1,407	1,582	1,766	184
Netherlands	609	-138	208	311	1,329	3,223	1,894
Viet Nam	1	8	11	16	792	792	
Estonia	42	103	99	394	522	609	87
Morocco	473	395	573	78	164	265	101
Indonesia	22	222	490	526	138	157	19
Bangladesh	48	-191	37	81	98	98	
Turkey	154	-26	29	2	39	66	27
Trinidad and Tobago	29	41	5	40	25	25	
Lebanon	-66	-47	-48	-50	16	23	7
Egypt	36	-15	39	-154	8	11	3
Free Zones	-114	-203	1	-243	3	3	
Syrian Arab Republic	5	20	3	7	3	3	
Georgia	1	-5	7	218	3	3	
Dominica	10	10	17	5	3	3	
Moldova, Republic of	-4	-2	-3	-3	-2		2
Cabo Verde	-6	-5	-7	-5	-3		3
Bahamas	-9	-13	-9	-13	-3		3
Ethiopia	12	26	-276	222	-3	9	12

Partners	Balance in value in 2011	Balance in value in 2012	Balance in value in 2013	Balance in value in 2014	Balance in value in 2015	Exported value in 2015	Imported value in 2015
Congo, Democratic Republic of the	-3	-6	-2	-5	-5		5
Chile	-133	-105	-131	-121	-113		113
Congo	-6	-2	-3	-2	-113		113
Romania	-117	-113	-106	-141	-118	3	121
Botswana	0	-30	-1	0	-122		122
Israel	-103	-71	-98	-132	-144		144
Norway	-215	-203	-165	-221	-171		171
Brazil	-304	-277	-229	-259	-182	66	248

Sources: ITC calculations based on UN COMTRADE statistics. Unit: US Dollar thousand

**Table 6- Saffron Trade between Countries Product: 091020 Saffron**

Partners	Balance in value in 2011	Balance in value in 2012	Balance in value in 2013	Balance in value in 2014	Balance in value in 2015	Exported value in 2015	Imported value in 2015
Finland	-334	-194	-131	-187	-188	8	196
Russian Federation	-336	-280	-357	-319	-210	2	212
Luxembourg	-260	-253	-329	-234	-220	21	241
Poland	-91	-118	299	-86	-234	25	259
Denmark	-481	-462	-358	-495	-266	26	292
Czech Republic	-222	-172	-213	-227	-283	86	369
Mauritius	-377	-429	-433	-366	-299		299
South Africa	-538	-55	-297	-303	-299	290	589
Dominican Republic	-189	-203	-243	-295	-333		333
Mexico	-700	-776	-1,007	-618	-546	62	608
Singapore	-647	-460	-464	-499	-638	335	973
Malaysia	-167	-249	-875	-1,100	-700		700
Belgium	-1,184	-777	-690	-1,145	-757	490	1,247
Ireland	-401	-757	-792	-1,107	-1,028	4	1,032
Australia	-1,109	-1,149	-1,309	-1,515	-1,318	195	1,513
Oman	-1,023	-1,303	-1,116	-1,174	-1,375		1,375

Partners	Balance in value 2011	Balance in value 2012	Balance in value 2013	Balance in value 2014	Balance in value 2015	Exported value in 2015	Imported value in 2015
Hong Kong, SAR China	-2,020	-2,540	-2,881	-2,014	-1,423	894	2,317
Canada	-1,935	-2,074	-2,003	-1,760	-1,424	3	1,427
Bahrain	-1,006	-996	-1,123	-1,109	-1,494	2	1,496
Qatar	-753	-1,190	-1,199	-1,854	-1,758	1	1,759
Germany	-1,808	-2,713	-1,850	-2,127	-2,499	2,161	4,660
Japan	-3,535	-2,668	-3,192	-2,967	-2,773		2,773
Kuwait	-1,666	-2,094	-2,338	-3,138	-2,835		2,835
France	-4,423	-6,305	-5,465	-6,734	-4,041	6,181	10,222
Spain	11,568	8,779	8,506	7,377	-4,423	47,160	51,583
Switzerland	-3,594	-3,444	-3,314	-3,520	-5,078	209	5,287
United Arab Emirates		-25,823	-16,791	-22,367	-6,084	639	6,723
Argentina	-5,077	-5,502	-7,656	-5,216	-7,187	11	7,198
United Kingdom	-3,559	-2,752	-4,040	-6,000	-7,528	702	8,230
India	-6,837	-3,962	-5,059	-8,970	-8,068	1,605	9,673
Sweden	-7,504	-6,758	-5,469	-6,380	-8,953	275	9,228
Saudi Arabia	-6,610	-7,940	-8,373	-10,896	-11,442	48	11,490
United States of America	-13,758	-14,207	-11,975	-13,296	-13,046	379	13,425
Italy	-20,729	-18,128	-17,566	-13,381	-16,392	803	17,195

Sources: ITC calculations based on UN COMTRADE statistics. Unit: US Dollar thousand

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

Import and export take place between many countries and regarding to high value of saffron in Spice category, there is always treat of fraud and adulteration for this product. So, establishing international standard criteria based on codex standard is necessary for International trade and consumer support.

Saffron is traded according to purity, quality specification and forms. The form of Saffron varies filaments, cut filaments and powder.

Iranian national standards for Saffron are:

ISIRI-259-1- Saffron – Specification

ISIRI-259-2- Saffron – Test Methods

ISIRI-3659 – Saffron – Sampling

ISIRI- 5097- Saffron – Code of Practice Packing Equipment and Installation

ISIRI- 5230- Saffron – Harvest and Applying Process Before Packing

ISIRI – 5689 – Microbiological Specification and Test Methods for Saffron

ISIRI – 6762 – Saffron – Guideline for Establishing HACCP System from Harvest to Packaging

ISIRI – 7001 – Food Additives – Saffron – Determination of Essential Oil – Test Method

ISIRI – 7345 – Saffron – Packaging – Aluminium Foil Based Flexible Sachets – Specifications & Test Method

ISIRI – 16536 – Iran Good Agricultural Practices (IRAN GAP) – Saffron

International organization like ISO has two standards for Saffron as follows:

ISO – 3632-1- Saffron (*Crocus sativus* L.) – Part 1: Specification

ISO – 3632-2- Saffron (*Crocus sativus* L.) – Part 2: Test methods

Many conventions including those of the world Spice Congress and the World Spice Organization have addressed the issue of harmonization of grades and specification for Saffron. Saffron being produced in some 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 impediment to international trade, it is essential to incorporate all existing diverse standards in a single comprehensive standard acceptable across world internationally.

This would reduce possible barriers to trade and would provide a comprehensive framework setting out the minimum internationally acceptable requirements for Saffron.

This new work will provide a recommendation, which countries could use to develop their own quality and grading standards for Saffron and, when applied internationally, may assist in providing a harmonized approach.

### (c) International or regional market potential

The quantity imported of saffron in 2015 has been reported 3563 tones and Annual growths quantity of imported Saffron in the world is 51% between 2010-2014 which shows international demand for saffron has been grown (ITC, Geneva 2014). The major exporters are Iran, Spain, Portugal, France, Italy, India, India, and United Arab Emirates. According to ITC data, the international trade accounted to more than 2000 tones for about 165536 US \$ thousands in 2014.

**Table 7: Export Statistics of saffron**

Exporters	Exported value in 2014 (US\$ Thousand)	Quantity Export in 2014 (tones)	Annual Growth in quantity 2010-2014(%)
World	330,558	2162	+ 20
Iran (Islamic Republic of)	70911	129	+10
Spain	47516	134	+2
Portugal	18284	22	+34
France	7100	14	0
Georgia	219	26	-
Italy	2509	18	+13
India	1850	62	+164
United Arab Emirates	1734	36	-
Greece	1440	2	-46
China	1415	69	-19
UK	1325	121	-10
Netherlands	1144	29	-8
Vietnam	887	403	+39
Indonesia	547	900	+55
USA	437	82	+28
Brazil	57	31	-
South Africa	212	48	+4
Mexico	171	13	-
Saudi Arabia	121	2	-
Hong Kong, SAR China	92	1	0
Singapore	371	1	0

Exporters	Exported value in 2014 (US\$ Thousand)	Quantity Export in 2014 (tones)	Annual Growth in quantity 2010-2014(%)
Estonia	432	17	-
Sweden	374	8	+10
Belgium	784	21	+15
Morocco	264	1	-10
Ethiopia	222	212	+162
Czech Republic	78	14	+30
Denmark	60	5	+62

Source: ITC, Geneva (30 out of 63 countries)-Year 2014

**Table 8: Pattern of Export International Trade**

Worldwide export data			
Year	Export quantity (in Metric Tons)	Value, US Dollar thousand	Growth rate In quantity (%)
2010	-	-	-
2011	914	374,595	-
2012	1417	188,796	+ 55
2013	2087	176,103	+ 47
2014	2354	197,352	+ 13

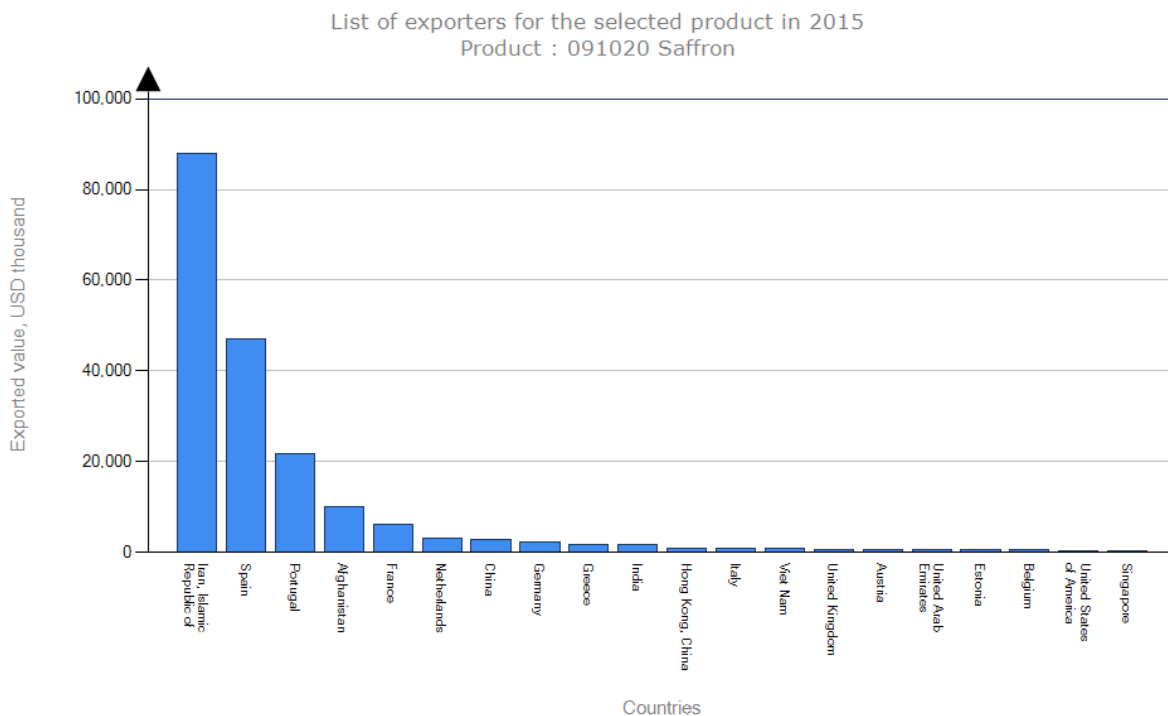
Source: ITC, Geneva

**Table 9: Pattern of Import International Trade**

Worldwide import data			
Year	import quantity (In Metric Tons)	Value, US Dollar thousand	Growth rate in quantity (%)
2010	806. 68	1312,154	-
2011	1426	266,801	+ 77
2012	2056	186,980	+ 44
2013	3649	177,882	+ 77
2014	5372	196,726	+ 47

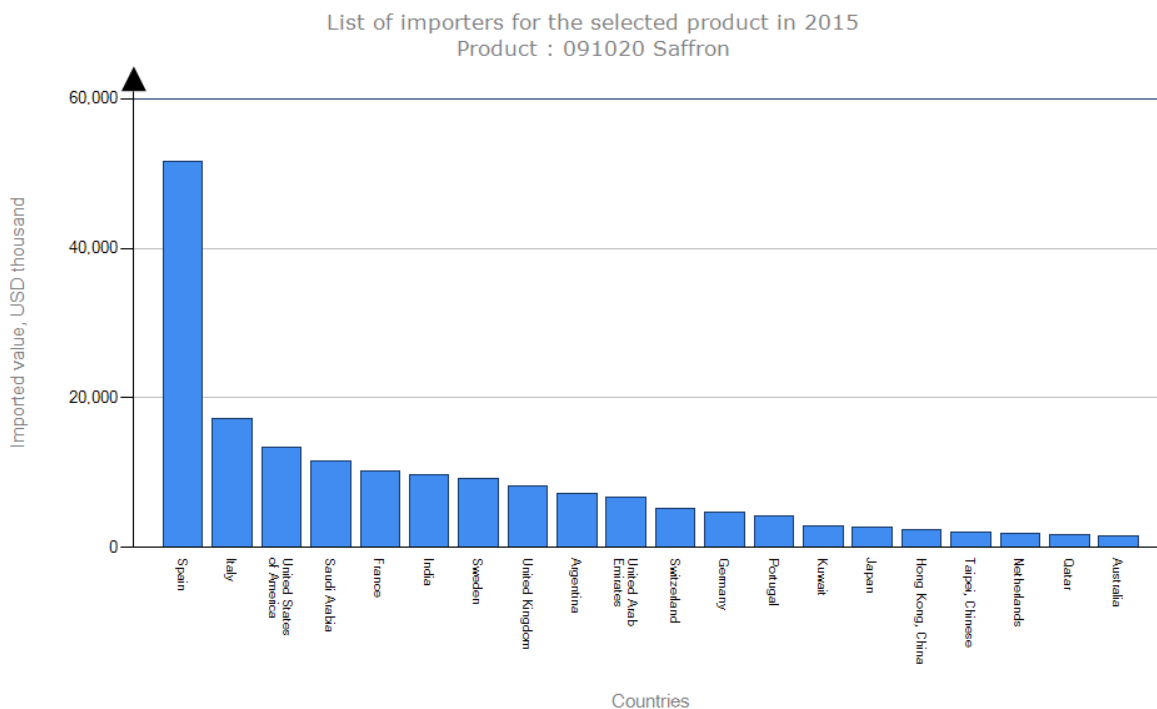
Source: ITC, Geneva

**Figure 1- Pattern of Export International Trade (2015)**



Data From: International Trade Center (ITC)

**Figure 2- Pattern of Import International Trade (2015)**



Data From: International Trade Center (ITC)

Global demand for Saffron in all forms is expected to increase in future, mainly on account of increased culinary applications and functional foods. It can lead to increase Saffron trade. Due to importance the food safety, hygiene, quality control of Saffron specifications, it's necessary to develop an international harmonized standard.

**(d) Amenity of commodity to standardization**

The characteristics of Saffron from its cultivation to retail sale e.g. cultivar varieties, composition, quality characteristics, processing, packaging, etc. all lead to adequate parameters for the standardization of the



product. Taking into account that technical information is available and certain degree of harmonization at regional/international levels has already been achieved on certain aspects relevant to consumer's protection and trade facilitation as mentioned in point (b).

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

There is no general commodity standard covering saffron under Codex. The proposed standard will heighten consumer protection and facilitate saffron trade by establishing an internationally agreed quality standard.

Since saffron is placed in the group of spices category with considerable higher prices (about 300-350 times more), there is always a risk of fraud and manipulation for this valuable product. Thus, need to pay special attention for consumer protection against adulteration.

Other criteria and data (e.g. monetary value or fraud possibility) should be considered to prioritize work on saffron.

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

A single standard for saffron will cover all forms of saffron traded worldwide. The different forms of saffron like powder, filaments and cut filaments will be examined under this standard individually.

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

The existing standards which may be considered while developing a codex standard for saffron are:

- ISO international standard 3632-1:2011(Edition2) - Specifications,
- ISO international standard 3632-2:2010 (Edition2) - Test methods
- American Standard Trade Association (ASTA)
- European Standard Association (ESA)

**5. Relevance to the Codex strategic objectives**

The elaboration of a Codex standard for saffron is according to strategic objectives that to promote the maximum application of codex standards by countries in their national legislation and to facilitate international trade by protecting the health of the consumers. This standard is important to guarantee quality, as well as providing new opportunity for the producing this healthy and beneficial products and promoting international market.

Therefore this proposal is consistent with the Strategic Plan of the Codex Alimentarius Commission 2014-2019, in particular strategic objectives 1.1, 1.3, 2.3 and 3.1.

**Goal 2- Promoting Widest and Consistent application of scientific principles and Risk analysis**

**The proposed work will promote the elaboration of Codex commodity standards based on the rigorous scientific analysis of collected data.**

This Codex Standard will facilitate fair trade of saffron, as the quality, purity parameters and food safety .The purity of saffron allows to provide proper criteria for the quality control of these product. Also, the chemical artificial color could be dangerous for consumers' health that's one of the common frauds for saffron.

So, elaborating of this standard can help avoiding the risks such as lack of Good Hygienic Production, non-compliance with grading, adding artificial color.

In addition, this proposed standard can be a reference for solving food safety issues such as microbial contamination, heavy metals, contaminants, residue pesticides, food additives.

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

This is proposed as 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 as follows:

- *Principles and Guidelines for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997) "*
- *General Principles of Food Hygiene (CAC/RCP 1-1969)*
- Data bases related to the maximum limits for pesticides residues issued by Codex Committee on Pesticides Residues (CCPR).

- *General Standard for Contaminants and Toxins in Food and Feed* (CODEX STAN 193-1995)
- *Code of Hygienic Practice for Spices and Dried Aromatic Herbs* (CAC/RCP 42-1995)

#### 7. Identification of any need for any requirements for and availability of expert scientific advice

No expert scientific advice is foreseen at this stage. 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 other external bodies such as International Organization for Standardization (ISO), American Spice trade Association (ASTA) and European Spice Association (ESA) shall be welcomed for this work.

#### 9. Proposed Time Schedule

The following is the proposed timetable for the completion of the standard.

DATE	ADVANCE AND PROCEDURES
CCSCH3	Consideration of new work
June/July 2017	Critical review of proposal by CCEXEC; Approval of new work by CAC40
CCSCH4	Consideration at step 3.
June/July 2019	Consideration by CAC 42 Step 5
CCSCH5	Consideration by at Step 6
June/July 2020	Adoption by the CAC43