CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON SPICES AND CULINARY HERBS

Second Session

Goa, India, 14 - 18 September 2015

ACTIVITIES OF INTERNATIONAL ORGANISATIONS RELEVANT TO THE WORK OF CCSCH

A. INTERNATIONAL ORGANISATION OF SPICE TRADE ASSOCIATIONS (IOSTA)[1]

Introduction

The International Organisation of Spice Trade Associations (IOSTA) was established in 2000 to represent the interests of the international spice trade before international bodies. Members include the American Spice Trade Association, Canadian Spice Association, European Spice Association (representing its members comprised of various country associations), All India Spice Exporters Forum, and the All Nippon Spice Association. As an organization looking to address issues as they arise, IOSTA welcomes participation from other organizations in ongoing discussions and collaborations. Participation has included the International Pepper Community, the Vietnam Pepper Association, and the World Spice Organisation among others.

Mission

The Mission of IOSTA is stated as: IOSTA brings together spice associations from around the world to address common issues and seek sensible solutions to ensure the sustainability of the spice industry.

Make Up

Each IOSTA member organisation has numerous member companies that represent all facets of the spice industry and the spice supply chain. This allows IOSTA as an organisation to provide input on the draft Codex standards from a wide range of perspectives to ensure they will meet the needs of industry. IOSTA is available to provide input and feedback should members of the CCSCH have questions about typical industry practices.

Activities

As an organisation, IOSTA has published a Good Agricultural Practices Guide that is available through many of the member organisations. A number of members in producing countries have had the GAP Guide translated and have then taken steps to work with farmers to implement the best practices required in international trade.

IOSTA has not addressed the issue of quality standards as an organistion, however, some member associations have developed standards and specifications.

ASTA – published the ASTA Cleanliness Specifications in 1969 that cover macroscopic extraneous matter and macroscopic filth. These specifications are similar to the U.S. Food and Drug Administration's (FDA) Defect Action Levels. The trade commonly refers to "ASTA quality" which is a reference to the ASTA Cleanliness Specifications. ASTA has also published an ASTA Analytical Methods Manual which provides testing methods for many quality parameters of spices such as volatile oil and total ash. The list of ASTA methods is attached. ASTA also runs a Check Sample Program for laboratories worldwide to participate in which allows laboratories to conduct testing to ensure consistency in the use of methods. This program covers physical parameters of black pepper, red pepper and oregano.

ESA – published European Spice Association Quality Minima Document in 2011 which covers chemical and physical parameters of spices. This work was documented in detail in a document distributed for the First Session of the CCSCH.

[1] This report has been prepared under the IOSTA 's own responsibility

ASTA ANALYTICAL METHODS

GENERAL METHODS

1.0 Preparation of Sample (*Revised January 2012*
2.0 Moisture (Distillation Method) *(Revised July 2011)*
2.1 Moisture in Spices (Vacuum Oven Method) *(Revised January 1997)*
3.0 Total Ash *(Revised January 1997)*
4.0 Acid Insoluble Ash *(Revised January 1997)*
5.0 Steam Volatile Oil (Modified Clevenger Method) *(Revised March 2010)*
5.1 Steam Volatile Oil (Lee and Ogg Method) *(Revised March 2010)*
5.2 Steam Volatile Oil in Spices *(Revised March 2010)*
6.0 Water Activity (October 2010, Original Version)
7.0 Crude Fiber *(Revised January 1997)*
8.0 Starch (Direct Acid Hydrolysis) *(Revised January 1997)*
9.0 Alcohol Extract *(Revised January 1997)*
10.0 Sieve Analysis *(Revised October 2004)*
11.0 Non-Volatile Methylene Chloride Extract *(Revised January 1997)*

METHODS FOR SPECIFIC SPICES

12.1 Piperine Content of Black and White Pepper, Their Oleoresins and Soluble Pepper Seasonings *(Revised January 1997)*
14.0 Mold and Extraneous Matter in Black and White Pepper (Revised January 2013)
14.2 Light Berries in Black and White pepper (Revised January 2013
14.1 Extraneous Matter in Spices (Excluding Pepper) *(Revised April 2014)*
15.0 Volatile Oil in Mustard Seed and Flour *(Revised January 1997)*
15.1 Volatile Oil in Mustard Seed and Flour (Alternate Method) *(Revised January 1997)*
16.0 Steam Volatile Oil in Cassia *(Revised March 2010)*
17.0 Cinnamic Aldehyde in Cassia Oils *(Revised January 1997)*
18.0 Curcumin Content of Turmeric Spice & Oleoresins *(Revised October 2004)*
19.0 Phenols in Nutmeg and Mace *(Revised January 1997)*
20.1 Extractable Color in Capsicums and Their Oleoresins *(Revised October 2004)* 9
21.2 Sensory Evaluation of Low Heat Chilies, Red Peppers and Oleoresins *(Revised December 1998)*
21.3 Pungency of Capsicums and Their Oleoresins (HPLC Method - Preferred) *(Revised October 2004)*
22.1 Microanalytical Analysis of Paprika *(Revised January 1997)*
22.2 Microanalytical Analysis of Ground Capsicums (Excluding Paprika) *(Revised January 1997)*
23.1 Ethylene Oxide (EtO) and Ethylene Chlorohydrin Residue in Black Pepper *(Revised January 1997)*
23.2 Determination of Ethylene Oxide (EtO) *(Revised January 1997)*
23.3 Ethylene Chlorohydrin Residue in Spices *(Revised January 1997)*
24.0 Aflatoxin Determination (Revised January 1997)
24.1 Aflatoxins in Herbs and Spices (Immunoaffinity Column Method) *(Revised December 1998)*
24.2 Analysis of Aflatoxins B_1, B_2, G_1, and G_2 by HPLC *(Revised January 1997)*
25.0 Bulk Index/Bulk Density (Manual Method) *(Revised January 2013)*
25.1 Bulk Index/Bulk Density (Machine Method) *(Revised January 2013)*
26.0 Foreign Leaves in Oregano *(Revised October 2010)*
Screening Method for the Determination of Defatted Meal in Paprika & Black Pepper *(Revised October 2004)*
27.0 Total Hexane Content in Extracted Meals-- (Headspace Gas Chromatography Method) *(Revised June 2008)*

28.0 Determination of Oil Soluble Dyes in Capsicum and Turmeric Samples and Products by High Performance Liquid Chromatography (*Revised June 2008*)

Recommended Microbiological Methods – Preface *(Revised October 2004)*

Recommended Microbiological Methods *(Revised October 2004)*

29.0 Under Review

30.0 Determination of Added Sulfites in Dried Allium (Modified Monier-Williams Method) *(Revised October 2010)*

B. INTERNATIONAL PEPPER COMMUNITY (IPC)[2]

Promotion of Quality related Issues – IPC

International Pepper Community(IPC) has paid close attention during the last 43 years to improve the Production and Productivity of Pepper in pepper producing countries. However, with the realization of the importance of the quality of Pepper and Pepper products as a food item, several initiatives for understanding and education on quality related issues as well as to introduce quality related crop management and processing techniques were given a reasonable priority.

As per the proposal adopted at the especial meeting of the Head of the Delegates of the International Pepper Community held on 29th June 1998 in Jakarta, Indonesia, a proposal was adopted to Reform of IPC activities and Enlarge its' scopes and functions. Under the proposal consideration on quality and trade related issues have been identified as priorities for future activities.

As a result, the first subcommittee of the International Pepper Community was established in 2001 as "IPC committee on Quality" to address the following issues.

- Establishment of IPC Quality standards for Pepper and Pepper products.
- Evaluation of the quality status of pepper produced in member countries.
- Introduction of innovative technologies for processing pepper.

Immediately after the "IPC committee on Quality" developed the IPC Standards for Pepper and Pepper products based on the national standards of the member countries and standards developed by importing countries in Europe and USA. This standard consisted with two grades each for Black and White pepper.

IPC meeting held during September 2003 in Cochin, India adopted a proposal to promote IPC Standards for pepper in countries where no national standards available.

- IPC has been given the observer status in Codex Alimentarius Commission on September 2004. In the same meeting discussed about determination of Microbialcontaminations, Pesticide residues and Aflatoxins levels.
- In the meeting of the IPC Committee on Quality held on 28th November 2005, Indonesia, decided to establish IPC Code of Hygiene Practices and to establish IPC its own Good Agricultural Practices (GAP) Guideline on Pepper. The idea behind the proposal was to avoid contamination during the process of manufacturing to avoid subsequent efforts to clean the contaminated products.
- The meeting held in Ho Chi Minh City Vietnam, on November, 2008 finalized the documents on GAP and Integrated Pest Management.
- Inter-laboratory proficiency test programme for standardization of the laboratories in member countries.

In 2011 in Jakarta, Indonesia, IPC committee on Quality initiated the comparison of the IPC document on GMP with Codex Alimentarius Code for Pepper and Pepper products.

In Jakarta, Indonesia, 18th meeting of the Quality held in 2012, suggested that the revised IPC GMP document may be modified by incorporating additional points such as definition, demonstration and records, tracebility, details on equipments, procedures against contamination and cross contaminations, management and supervision, personal behaviours, visitors, product information and consumer awareness.

The GAP training programmes were organized by the IPC and circulated the GAP in national languages in member countries.

The 19th Meeting of IPC Committee on Quality was held at Jakarta on 3rd - 4th October 2013 finalized the IPC Code of Hygienic Practices for Pepper and other similar Spices (IPC GMP);

[2] This report has been prepared under the International Pepper Community's own responsibility

During the 20th meeting of IPC Committee on Quality held in Kochi, India, in February 2014, revision of the existing standards for Black and White pepper was taken in to consideration and formed an e-working group consist of all the IPC member countries to collect information on

- National standards for Pepper established by IPC member countries.
- Collection of additional quality related information from the respective laboratories and Organizations.
- Review the methods of analysis.
- Specific quality parameters related to traceability.

The importance of the Quality standards to be in line with the CCSCH (Codex Committee on Spices and Culinary Herbs) also was taken into consideration.

The e-working group initiated work from July 2014 and collected available quality standards from all the member countries and ISO as well as from the consuming countries. After consideration all, revised IPC standards were formulated and submitted for the Executive Committee of Head of Delegation of, IPC during October 2014, in Ho Chi Minh City, Vietnam. The executive committee decided to approve the document after comparison with the Codex standards and the revised IPC Standards for pepper and Pepper products are now ready for the approval.

Recent Developments

After considering all, IPC committee on Quality reformulated the quality standards for Pepper and Pepper products by early 2015 and circulated for the comments from the IPC member countries and consumer organizations. Present standards are almost comparable to Codex proposed standards and will be taken into discussion by the IPC Committee on Quality during the next meeting proposed to be held in Cochin, India from 10th 11th September, 2015.

IPC involvement on promotion of Quality of pepper

- Development of the IPC Quality standards for Pepper as early as in 2001.
- Identification of Good Agricultural Practices (GAP), leading for better productivity and quality of Pepper and finalizing a list of GAPs for Pepper.
- Supporting all the IPC member countries to translate the GAP document to local languages, enabling the farming community, processers etc. to have easy access for understanding and practice.
- Technical support for training of producers and processors of pepper in producing countries to increase Productivity and Quality of Pepper.
- Training of technical staff from the member countries on GAPs.

Development of Good Manufacturing Practices (GMP) for Pepper

- After concerning the importance of Quality of Pepper and pepper products, GMP document covering the practices to be adopted for producing superior quality pepper was compiled in 2011.
- Comparison of the IPC document for GMP with other similar documents produced by various organizations including Codex, GMP document was modified and published in 2013 as IPC Code of Hygienic Practices for Pepper and other similar Spices (IPC GMP).
- The GMP document of IPC is scheduled to be developed as a manual for producing good quality pepper covering all the aspects from harvesting to processing and storage to transport. This is taken up for implementing during the next Quality meeting scheduled for 10th to 11th September in Cochin, India.
- Promotion of machineries for processing pepper. Some of the member countries have already developed such machineries for Threshing, Shifting, Blanching (Black pepper), Decorticating (White pepper), Drying (different scales and types), Grading etc.
- Through the IPC committee on Quality, Research & Development and Marketing promotion of those processes and machineries is undertaken and expect to expand further with collaboration of the member countries.

C. COMMUNICATION FROM ISO/TC 34/SC 7 SECRETARIAT[3]

ACTIVITIES OF ISO/TC 34/SC 7 'SPICES, CULINARY HERBS AND CONDIMENTS SUBCOMMITTEE'

International Standardization

The foremost aim of international standardization is to facilitate the exchange of goods and services through the elimination of technical barriers to trade. Three bodies are responsible for the planning, development and adoption of International Standards, namely, ISO (International Organization for Standardization) which is responsible for all sectors excluding Electrotechnical, which is the responsibility of IEC (International Electrotechnical Committee), and most of the Telecommunications Technologies, which are largely the responsibility of ITU (International Telecommunication Union).

Role of International Organization for Standardization (ISO)

ISO is an international non-governmental organization, the members of which are the National Standards Bodies (NSBs) of around 160 countries (organizations representing social and economic interests at the international level), supported by a Central Secretariat located in Geneva, Switzerland.

The principal deliverable of ISO is the International Standard. An International Standard is developed according to principles stipulated by the World Trade Organization's Technical Barriers to Trade Committee (WTO/TBT), especially: Transparency, Openness, Impartiality and consensus. ISO Standards are developed by ISO Technical Committees (ISO/TC)/Subcommittees (SC) representing all interested parties, supported by a public comment phase (the ISO Technical Enquiry).

Any general information regarding the International Organization for Standardization (ISO) can be found on http://www.iso.org.

ISO/TC 34 - 'Food Products Technical Committee' of ISO

The need to make food and feed of suitable quality and safety available in sufficient amounts and therefore the possible export and the necessary import of food and feed are a focus of interest in each society. In that context, international standardization in food and feed sectors, whose fundamental aim is to promote the development of industry and trade, was one of the first topics chosen when ISO was established in 1947.

To answer this problem, the field of activity of ISO/TC 34 'Food Products' and its subcommittees covers practically all those products of agriculture that are produced directly or after processing for human consumption and animal feeding. These are: oleaginous seeds and fruits and oilseed meals, cereals and pulses, fresh, dry and dried fruits and vegetables and derived products, milk and milk products, meat, poultry, fish, eggs and their products, animal and vegetable fat and oils, tea and coffee, and products that increase the hedonic value of foods, such as spices, culinary herbs and condiments.

ISO/TC 34 deals with "*Standardization in the field of human and animal foodstuffs, covering the food chain from primary production to consumption, as well as animal and vegetable propagation materials, in particular, but not limited to, terminology, sampling, methods of test and analysis, product specifications, food and feed safety and quality management and requirements for packaging, storage and transportation*." The products covered by ISO/TC 54 'Essential oils' and ISO/TC 93 'Starch (including derivatives and by-products)' are excluded from the scope of work of this Committee.

In order to deal with all these topics, ISO/TC 34 is divided into several subcommittees. More information about the scope, structure, contact details as well as quick links to the work programme and business plan of ISO/TC 34 and its subcommittees is available on the ISO website.

ISO/TC 34/SC 7 - 'Spices, Culinary Herbs and Condiments Subcommittee' of ISO/TC 34

ISO/TC 34/SC 7 'Spices, Culinary Herbs and Condiments Subcommittee' was established in 1961. This subcommittee is engaged in the formulation of International Standards in the field of spices, culinary herbs and condiments. The Secretariat and Chairmanship of the sub-committee is with India. The sub-committee has held so far 28 meetings and met last time at Madrid, Spain on November 18-20, 2014. The next meeting of ISO/TC 34/SC 7 is planned in first semester of 2016 in New Delhi, India. Generally, the meetings of this sub-committee are held at eighteen months intervals.

[3] This part A of the report has been prepared under the ISO 's own responsibility

Membership Status of ISO/TC 34/SC 7

A list of members bodies in ISO/TC 34/SC 7 is enclosed as Annex I. At present there are 19 Participating (P) member countries and 25 Observing (O) member countries in ISO/TC 34/SC 7. 'P' Members participate actively in the work, with an obligation to vote on all questions formally submitted for voting within the technical committee or subcommittee, on enquiry drafts and final draft International Standards. 'O' members follow the work as an observer, and therefore receive committee documents and have the right to submit comments and to attend meetings. Efforts are continually being made to increase the membership of ISO/TC 34/SC 7.

In addition, ISO/TC 34/SC 7 has a wide network of liaisons with both governmental and non-governmental organizations. There are 9 organizations in liaison with ISO/TC 34/SC 7. These are: Association of Analytical Communities (AOAC) International, Codex Alimentarius Commission (CAC), European Commission (EC), European Spice Association (ESA), International Federation of Essential Oils and Aroma Trades (IFEAT), The International General Produce Association Ltd. (IGPA), International Pepper Community (IPC), United Nations Economic Commission for Europe (UNECE) and World Customs Organization (WCO).

Work Programme of ISO/TC 34/SC 7

A list of published ISO standards under the direct responsibility of ISO/TC 34/SC 7 is enclosed as Annex II. ISO/TC 34/SC 7 has published 69 International Standards, comprising of 43 standards for product specifications, 22 for test methods, 2 for vocabulary/nomenclature and 2 for methods of sampling.

The current work programme of ISO/TC 34/SC 7 includes revision of the following International Standards:

- ISO 676 Spices and condiments — Botanical nomenclature
- ISO 1208 Spices and condiments — Determination of filth

Further, the following new subjects have been identified for standardization:

- Spices - Determination of Sudan dyes I, II, III and IV — Method using HPLC/HPLC-MS/MS
- Dried Dill
- Dried Parsley
- Lemon Grass
- Curry Leaves
- Guidelines for Harvesting, Packaging and Storage of Saffron.

ISO/TC 34/SC 7 and CCSCH — The Way Forward

Codex Alimentarius Commission (CAC) has a B-Liaison (Organizations which have indicated a wish to be kept informed of the work of the technical committee or subcommittee) with ISO/TC 34/SC 7.

As per WTO, the Codex standard is regarded as the basis for international trade. However, it may be added that in the absence of Codex standards in the area of spices, culinary herbs and condiments, the International Standards laid down by ISO/TC 34/SC 7 form the baseline for international trade.

Since, the field of activity of ISO and Codex is same, to avoid overlap as much as possible, and to foster cooperation, it is suggested that the vast resources of ISO/TC 34/SC 7 can be used as references for Codex standards in this area. In the first CCSCH Session held in 2014 at Kochi, India, ISO/TC 34/SC 7 Secretariat suggested that ISO standards can be used as a starting point to frame the Codex standards for spices, culinary herbs and condiments. ISO/TC 34/SC 7 appreciates CCSCH for drawing assistance from ISO Standards for preparing draft Codex Standards for BWG Pepper, Cumin, Oregano and Thyme. CCSCH may refer to and endorse the methods of test and analysis developed by ISO/TC 34/SC 7.

Further, the cooperation between ISO/TC 34/SC 7 and CCSCH can be developed by cross-liaison in order to be informed of the works undertaken and be able to comment on the documents drafted (for integration, and to avoid duplication and conflict of the work).

The above suggestions are consistent with the term of reference of CCSCH as reproduced below:

a) To elaborate worldwide standards for spices and culinary herbs in their dried and dehydrated state in whole, ground, and cracked or crushed form.

b) **To consult, as necessary, with other international organizations in the standards development process to avoid duplication**.

The collaboration and coordination between ISO/TC 34/SC 7 and CCSCH is easier since secretariats of both these committees are held by India.

ANNEX I

Members of ISO/TC 34/SC 7, Spices, Culinary Herbs and Condiments Subcommittee

Secretariat:

India (BIS)

Participating Countries:

1. Argentina (IRAM)
2. Chile (INN)
3. China (SAC)
4. Egypt (EOS)
5. Germany (DIN)
6. Greece (ELOT)
7. Hungary (MSZT)
8. India (BIS)
9. Indonesia (BSN)
10. Iran, Islamic Republic of (ISIRI)
11. Ireland (NSAI)
12. Mauritius (MSB)
13. Nigeria (SON)
14. Portugal (IPQ)
15. Romania (ASRO)
16. Russian Federation (GOST R)
17. Spain (AENOR)
18. Sri Lanka (SLSI)
19. Tanzania, United Republic of (TBS)

Observing Countries:

1. Bangladesh (BSTI)
2. Cameroon (ANOR)
3. Croatia (HZN)
4. Cuba (NC)
5. Cyprus (CYS)
6. Czech Republic (UNMZ)
7. Estonia (EVS)
8. Ethiopia (ESA)
9. France (AFNOR)
10. Hong Kong (ITCHKSAR) (Correspondent member)
11. Italy (UNI)
12. Japan (JISC)
13. Kenya (KEBS)
14. Korea, Republic of (KATS)
15. Mexico (DGN)
16. Morocco (IMANOR)
17. Poland (PKN)
18. Qatar (QS)
19. Serbia (ISS)
20. Singapore (SPRING SG)
21. Slovakia (UTN)
22. Thailand (TISI)
23. Trinidad and Tobago (TTBS)
24. Turkey (TSE)
25. United Kingdom (BSI)

As of August 2015

ANNEX 2

Published ISO Standards Under the Direct Responsibility of ISO/TC 34/SC 7 Spices, Culinary Herbs and Condiments Subcommittee

PRODUCT SPECIFICATIONS (including storage and transport)

Sl. No.	ISO Standard	Abstract
1.	**ISO 882-1 : 1993** 'Cardamom *(Elettaria cardamomum* (Linnaeus) Maton var. *minuscula Burkill*) — Specification — Part 1: Whole capsules' **ISO 882-1 : 1993/ Cor 1 : 1996**	Specifies requirements for the following: odour and flavour, freedom from insects, moulds, etc., extraneous matter, light seeds, chemical properties, grading, sampling, test methods, packing and marking, recommendations relating to storage and transport conditions.
2.	**ISO 882-2 : 1993** 'Cardamom (*Elettaria cardamomum* (Linnaeus) Maton var. *minuscula Burkill*) — Specification — Part 2 : Seeds' **ISO 882-2 : 1993/ Cor 1 : 1996**	Specifies requirements for the following: odour and flavour, freedom from insects, moulds, etc., extraneous matter, empty and malformed capsules, immature and shrivelled capsules, chemical properties, grading, sampling, test methods, packing and marking, recommendations relating to storage and transport conditions.

Sl. No.	ISO Standard	Abstract
3.	**ISO 959-1 : 1998** 'Pepper (*Piper nigrum* L.), whole or ground — Specification — Part 1: Black pepper'	Specifies requirements for black pepper (*Piper nigrum* L.), whole or ground at the following commercial stages: a) pepper sold by the producing country without cleaning or after a partial cleaning, without preparation or grading, called "non-processed (NP) or semi-processed (SP) pepper" in this part of ISO 959; b) pepper sold by the producing country after cleaning, preparation and/or grading, called "processed (P) pepper", which can, in certain cases, be re-sold directly to the consumers. Recommendations relating to storage and transport conditions, information regarding the microscopic structure of the pepper berry are also given in this standard. This part of ISO 959 is not applicable to black pepper categories called "light".
4.	**ISO 959-2 : 1998** 'Pepper (*Piper nigrum* L.), whole or ground — Specification — Part 2: White pepper'	Specifies requirements for white pepper (*Piper nigrum* L.), whole or ground, at the following commercial stages: a) semi-processed (SP) b) processed (P) Recommendations relating to storage and transport conditions are also given in this standard. This part of ISO 959 is not applicable to white pepper categories called "light".
5.	**ISO 972 : 1997** 'Chillies and capsicums, whole or ground (powdered) — Specification'	Specifies requirements for chillies and capsicums in the whole or ground (powdered) form. Two main species of capiscum, *Capsicum annuum* L. and *C. frutescens* L., and their sub-species *C. chinense*, *C. pubescens* and *C. pendulum* are covered. This International Standard does not apply to "chili powder" and paprika. Recommendations relating to conditions of storage and transport are also given in this standard.
6.	**ISO 973 : 1999** 'Pimento (allspice) [*Pimenta dioica* (L.) Merr.], whole or ground — Specification'	Specifies requirements for pimento or allspice [*Pimenta dioica* (L.) Merr.], whole or ground. Recommendations relating to storage and transport conditions are also given in this standard.
7.	**ISO 1003 : 2008** 'Spices — Ginger (*Zingiber officinale* Roscoe) — Specification'	Specifies requirements for ginger (*Zingiber officinale* Roscoe). Recommendations for storage and transport conditions are also given in this standard.
8.	**ISO 1237 : 1981** 'Mustard seed — Specification'	Establishes the requirements for mustard seed. Describes sampling, methods of test, packing and marking. Recommendations concerning storage and transport conditions are also given in this standard.
9.	**ISO 2253 : 1999** 'Curry powder — Specification'	Specifies the requirements for curry powder, which is used as a flavouring ingredient in the preparation of foods and is traded internationally. Recommendations relating to conditions for storage and transport are also given in this standard.
10.	**ISO 2254 : 2004** 'Cloves, whole and ground (powdered) — Specification'	Specifies requirements for whole and ground (powdered) cloves, *Syzygium aromaticum* (L.) Merr. et L. M. Perry. Recommendations relating to storage and transport are also given in this standard.
11.	**ISO 2255 : 1196** 'Coriander (*Coriandrum sativum* L.), whole or ground (powdered) — Specification'	Specifies the requirements for coriander (*Coriandrum sativum* L.), in the whole and ground (powdered) forms. Recommendations relating to storage and transport conditions are also given in this standard.
12.	**ISO 2256 : 1984** 'Dried mint (spearmint) (*Mentha spicata* Linnaeus syn. *Mentha viridis* Linnaeus) — Specification'	Covers the requirements for leaves of this spice in whole, broken or rubbed form. The term 'dried mint' included dehydrated mint, i.e. artificially dried mint. Does not apply to dried peppermint for which requirements are given in ISO 5563. Describes sampling, method of test, packing and marking, recommendations concerning storage and transport conditions.

Sl. No.	ISO Standard	Abstract
13.	**ISO 3632-1 : 2011** 'Spices — Saffron (*Crocus sativus* L.) — Part 1: Specification'	Establishes specifications for dried saffron obtained from the pistils of *Crocus sativus* L. flowers. It applies to saffron in both of the following forms: a) filaments and cut filaments; b) powder.
14.	**ISO 5559 : 1995** 'Dehydrated onion (*Allium cepa* Linnaeus) — Specification'	Specifies requirements for dehydrated onion (*Allium cepa* L.) and gives recommendations relating to microbiological requirements including recommendations for transport and storage.
15.	**ISO 5560 : 1997** 'Dehydrated garlic (*Allium sativum* L.) — Specification'	Specifies requirements for dehydrated garlic (*Allium sativum* L.). Recommendations relating to microbiological requirements without prejudice to national legislation applicable in different countries and recommendations relating to storage and transport are also given in this standard.
16.	**ISO 5561 : 1990** 'Black caraway and blond caraway (*Carum carvi* Linnaeus), whole — Specification'	Specifies the requirements for black caraway and blond caraway, describes sampling, methods of test, and packing and marking. It is not applicable to *Carum bulbocastanum*.
17.	**ISO 5562 : 1983** 'Turmeric, whole or ground (powdered) — Specification'	Covers the requirements for turmeric, whole and ground, describes sampling, methods of test, and packing and marking, recommendations relating to storage and transport conditions.
18.	**ISO 5563 : 1984** 'Dried peppermint (*Mentha piperita* Linnaeus) — Specification'	Covers the requirements for dried leaves or broken or rubbed dried leaves of peppermint. Describes sampling, methods of test, packing and marking, recommendations concerning storage and transport conditions.
19.	**ISO 5565-1 : 1999** 'Vanilla [*Vanilla fragrans* (Salisbury) Ames] — Part 1: Specification'	Specifies requirements for dehydrated garlic (*Allium sativum* L.). Recommendations relating to microbiological requirements without prejudice to national legislation applicable in different countries and recommendations relating to storage and transport are also given in this standard.
20.	**ISO 6465 : 2009** 'Spices — Cumin (*Cuminum cyminum* L.) — Specification'	Specifies requirements for fruits of cumin (*Cuminum cyminum* L.). Recommendations relating to storage and transport conditions are also given in this standard.
21.	**ISO 6538 : 1997** 'Cassia, Chinese type, Indonesian type and Vietnamese type [*Cinnamomum aromaticum* (Nees) syn. *Cinnamomum cassia* (Nees) ex Blume, *Cinnamomum burmanii* (C.G. Nees) Blume and *Cinnamomum loureirii* Nees] — Specification'	Specifies requirements for cassia (Chinese type, Indonesian type and Vietnamese type), in quills, whole, in pieces or ground (powdered), which is the bark of the trees *Cinnamomum aromaticum* (Nees) syn. *Cinnamomum cassia* (Nees) ex Blume, *Cinnamomum burmanii* (C.G. Nees) Blume and *Cinnamomum loureirii* Nees. Recommendations related to storage and transport conditions are are also given in this standard. Requirements for Sri Lankan type, Seychelles type and Madagascan type cinnamon are given in ISO 6539.
22.	**ISO 6539 : 2014** 'Cinnamon (*Cinnamomum zeylanicum* Blume) - Specification '	Specifies requirements for whole or ground (powdered) cinnamon, of the Sri Lankan, Madagascan and Seychelles types; this cinnamon is the bark of the tree or shrub *Cinnamomum zeylanicum* Blume). Describes recommendations relating to storage and transport conditions.
23.	**ISO 6574 : 1986** 'Celery seed (*Apium graveolens* Linnaeus) — Specification'	Specifies the requirements for whole celery seed for use as a spice. Does not apply to seeds used for agricultural purposes. Describes sampling, methods of test, and packing and marking, recommendations relating to storage and transport conditions.
24.	**ISO 6575 : 1982** 'Fenugreek, whole or ground (powdered) — Specification'	Specifies the requirements for this product, describes sampling, methods of test, and packing and marking, recommendations relating to storage and transport conditions.
25.	**ISO 6576 : 2004** 'Laurel (*Laurus nobilis* L.) — Whole and ground leaves — Specification'	Specifies requirements for whole and ground leaves of laurel (*Laurus nobilis* L.) for wholesale purposes. Recommendations relating to storage and transport conditions are also given in this standard.
26.	**ISO 6577 : 2002** 'Nutmeg, whole or broken, and mace, whole or in pieces (*Myristica fragrans* Houtt.) — Specification'	Specifies requirements for nutmeg, whole or broken, and for mace, whole or in pieces, obtained from the nutmeg tree (*Myristica flagrans* Houtt.) for wholesale commercial purposes. It does not apply to Papua-type nutmeg and mace (*Myristica argentea* Warburg). Recommendations relating to storage and transport conditions are also given in this standard.

Sl. No.	ISO Standard	Abstract
27.	**ISO 6754 : 1996** 'Dried thyme (*Thymus vulgaris* L.) — Specification'	Specifies the requirements for dried thyme (*Thymus vulgaris* L.) leaves in the rubbed form. Recommendations relating to storage and transport conditions are are also given in this standard.
28.	**ISO 7377 : 1984** 'Juniper berries (*Juniperus communis* Linnaeus) — Specification'	Specifies requirements for whole berries of *Juniperus communis* Linnaeus. Further it includes sampling, methods of test, packing and marking, recommendations relating to storage and transport conditions.
29.	**ISO 7386 : 1984** 'Aniseed (*Pimpinella anisum* Linnaeus) — Specification'	Specifies the requirements for whole aniseed, describes sampling, methods of test, and packing and marking, recommendations relating to storage and transport conditions.
30.	**ISO 7540 : 2006** 'Ground paprika (*Capsicum annuum* L.) — Specification'	Defines the requirements for ground paprika. Recommendations relative to storage and transport conditions are also given in this standard. A list of terms used in different countries for paprika (*Capsicum annuum* L.) is also given. This standard is not applicable to ground chillies and capsicums.
31.	**ISO 7925 : 1999** 'Dried oregano (*Origanum vulgare* L.) — Whole or ground leaves — Specification'	Specifies requirements for processed or semi-processed dried oregano) leaves of *Origanum* genus, species and sub-species, excluding *Origanum majorana*, in the whole or ground (powdered) form. Recommendations relating to storage and transport conditions are also given in this standard.
32.	**ISO 7926 : 1991** 'Dehydrated tarragon (*Artemisia dracunculus* Linnaeus) — Specification'	Specifies the requirements of dehydrated tarragon (methylchavicol type - called "French tarragon") in the form of whole or cut leaves and powder. Does not apply to elemicin-sabinene-type tarragon (called "Russian tarragon").
33.	**ISO 7927-1 : 1987** 'Fennel seed, whole or ground (powdered) — Part 1: Bitter fennel seed (*Foeniculum vulgare* P. Miller var. *vulgare*) — Specification'	Specifies the requirements for this product, describes sampling, methods of test, packing and marking and includes recommendations relating to storage and transport conditions.
34.	**ISO 7928-1 : 1991** 'Savory — Specification — Part 1: Winter savory (*Satureja montana* Linnaeus)'	Specifies the requirements of summer savory in the form of sprigs, and whole or broken leaves. Does not apply to winter savory. Recommendations to storage and transport conditions are also given in this standard.
35.	**ISO 7928-2 : 1991** 'Savory — Specification — Part 2: Summer savory (*Satureja hortensis* Linnaeus)'	Specifies the requirements of winter savory in the form of sprigs, and whole or broken leaves. Does not apply to summer savory. Recommendations to storage and transport conditions are also given in this standard.
36.	**ISO 10620 : 1995** 'Dried sweet marjoram (*Origanum majorana* L.) — Specification'	Specifies requirements for dried sweet marjoram (*Origanum majorana* L.) both as bunches (bouquets) and as rubbed. Recommendations relating to the conditions of storage and transport are also given in this standard.
37.	**ISO 10621 : 1997** 'Dehydrated green pepper (*Piper nigrum* L.) — Specification'	Specifies the requirements for dehydrated green pepper (*Piper nigrum* L.). Recommendation relating to conditions of storage and transport are also given in this standard.
38.	**ISO 10622 : 1997** 'Large cardamom (*Amomum subulatum* Roxb.), as capsules and seeds — Specification'	Specifies requirements for large cardamom as capsules and seeds (*Amomum subulatum* Roxb.). Recommendations relating to storage and transport are also given in this standard.
39.	**ISO 11162 : 2001** 'Peppercorns (*Piper nigrum* L.) in brine — Specification and test methods'	Specifies the requirements for peppercorns (*Piper nigrum* L.) in brine. Specifies requirements for the following: Colour and size, odour and flavour, extraneous matter, freedom from moulds, insects, preservatives, colouring matter and flavouring agents, piperine content of peppercorns in brine, characteristics of the brine and processing conditions and drained mass.
40.	**ISO 11163 : 1995** 'Dried sweet basil (*Ocimum basilicum* L.) — Specification'	Provides the requirements for dried sweet basil (*Ocimum basilicum*) leaves in cut form.
41.	**ISO 11164 : 1995** 'Dried rosemary (*Rosmarinus officinalis* L.) — Specification'	Provides the requirements for dried rosemary (*Rosmarinus officinalis*) leaves in cut form.
42.	**ISO 11165 : 1995** 'Dried sage (*Salvia officinalis* L.) — Specification'	Specifies the requirements for dried sage (*Salvia officinalis*). Applies for sage in form of whole or cut leaves.

Sl. No.	ISO Standard	Abstract
43.	**ISO 11178 : 1995** 'Star anise (*Illicium verum* Hook. f.) — Specification'	Specifies requirements for the dried fruits of the star anise tree (*Illicium verum* Hook. f.). Recommendations relating to the conditions of storage and transport are also given in this standard.

METHODS OF TEST

Sl No.	ISO Standard	Abstract
1.	**ISO 927 : 2009** 'Spices and condiments — Determination of extraneous matter and foreign matter content' **ISO 927 : 2009 / Cor 1 : 2012**	Specifies a general procedure for visual examination, or with magnification not exceeding 10 times, of whole spices for the determination of macro filth. It is applicable to dehydrated herbs and spices.
2.	**ISO 928 : 1997** 'Spices and condiments — Determination of total ash'	Specifies a method for the determination of total ash from spices and condiments based on the destruction of organic matter by heating the test portion in contact with air to constant mass at a temperature of 550°C. Specifies the principle, reagents, apparatus, test procedure, expression of results and the test report.
3.	**ISO 930 : 1997** 'Spices and condiments — Determination of acid-insoluble ash'	Specifies a method for the determination of acid-insoluble ash from spices and condiments based on treatment of the total ash, obtained as described in ISO 928, with hydrochloric acid, filtration, incineration and weighing of the residue.
4.	**ISO 939 : 1980** 'Spices and condiments — Determination of moisture content — Entrainment method'	Specifies a method consisting of determining the amount of water entrained by azeotropic distillatiom, using an organic liquid immiscible with water, and collected in a graduated tube. Lists the apparatus to be used and describes sampling, procedure, expression of results and the details to be included in the test report.
5.	**ISO 941 : 1980** 'Spices and condiments — Determination of cold water-soluble extract'	Specifies a method based on the extraction of a test portion with cold water, filtration, drying of the extract obtained and weighing. Lists the apparatus to be used and describes sampling, procedure, expression of results and the details to be included in the test report.
6.	**ISO 1108 : 1992** 'Spices and condiments — Determination of non-volatile ether extract'	Specifies the principle, the reagent, the apparatus, the test procedure, the expression of results and the test report.
7.	**ISO 1208 : 1982** 'Spices and condiments — Determination of filth'	Specifies a method for quantitative determination consisting of washing the product with chloroform, examining the washings for heavy filth and sand, washing the product with water and agitating it with light petroleum. After the light filth has collected at the interface between the liquids after separation, it is transferred to a filter paper and microscopically examined for contaminants.
8.	**ISO 2825 : 1981** 'Spices and condiments — Preparation of a ground sample for analysis'	Basis for this method is the laboratory sample obtained by the method specified in ISO 948. The principle of determination consists in grinding the laboratory sample, which has been previously mixed, to obtain particles of the size specified in the International Standard appropriate to the spice or condiment concerned or, if not so specified, to obtain particles of size approximately 1 mm.
9.	**ISO 3513 : 1995** 'Chillies — Determination of Scoville index'	Specifies a method for the determination of the Scoville index of chillies, whole or ground, unadulterated by other spices or products.
10.	**ISO 3588 : 1977** 'Spices and condiments — Determination of degree of fineness of grinding — Hand sieving method (Reference method)'	Defines the procedure to be used to obtain the distribution of particles in a sample. Details the apparatus, the procedure, and the presentation of results.
11.	**ISO 3632-2 : 2010** 'Spices — Saffron (*Crocus sativus* L.) — Part 2: Test methods'	Specifies test methods for dried saffron obtained from the *Crocus sativus* L. flower. It is applicable to saffron: a) filaments and cut filaments; b) powder.

Sl No.	ISO Standard	Abstract
12.	**ISO 5564 : 1982** 'Black pepper and white pepper, whole or ground — Determination of piperine content — Spectrophotometric method'	Describes a method based on a number of international collaborative studies carried out over a long period of time. The method seeks to optimize a number of variables in an attempt to define procedures and provide a common measure of the pungency of pepper. The principle consists in the extraction of the pungent compounds with ethanol and spectrophotometric measurement at 343 nm.
13.	**ISO 5565-2 : 1999** 'Vanilla [*Vanilla fragrans* (Salisbury) Ames] — Part 2: Test methods'	Specifies test methods for the analysis of vanilla belonging to the species *Vanilla fragrans* (Salisbury) Ames, syn. *Vanilla planifolia* Andrews. This part of ISO 5565 is applicable to vanilla in pods, cut in bulk, and in the form of powder. It is not applicable to vanilla extracts. Three test methods for the analysis of vanilla are described in this part of ISO 5565: a) the determination of moisture content in vanilla pods and powder; b) the determination of vanillin, vanillic acid, 4-hydroxybenzaldehyde and 4-hydroxybenzoic acid by highperformance liquid chromatography; c) the determination of vanillin content by an ultraviolet spectrometric method.
14.	**ISO 5566 : 1982** 'Turmeric — Determination of colouring power — Spectrophotometric method'	Describes a method based on the extraction of the pigments of turmeric with hot ethanol, dilution of the extract and spetrophotometric measurement at the wavelenghth of maximum absorption. The result of the measurement is expressed as curcumin as a percentage by mass.
15.	**ISO 5567 : 1982** 'Dehydrated garlic — Determination of volatile organic sulphur compounds'	The method consists in macerating of a test portion in aqueous medium, distillation of the sulphur compounds, and argentimetric titration of the distillate in nitric acid medium.
16.	**ISO 6571 : 2008** 'Spices, condiments and herbs — Determination of volatile oil content (hydrodistillation method)'	Specifies a method for the determination of the volatile oil content of spices, condiments and herbs.
17	**ISO 7541 : 1989** 'Ground (powdered) paprika — Determination of total natural colouring matter content'	The method consists of extracting of the natural colouring matter content with acetone, measuring of the absorbance of the solution obtained using a spectrometer at a wavelength of 460 nm.
18.	**ISO 7542 : 1984** 'Ground (powdered) paprika (*Capsicum annuum* Linnaeus) — Microscopical examination'	Gives a detailed description of the morphological and anatomical structure of paprika and specifies a method of examination consisting in clarifying a pinch of ground paprika on a microscope slide and examining the particles under appropriate magnification.
19.	**ISO 7543-1 : 1994** 'Chillies and chilli oleoresins — Determination of total capsaicinoid content — Part 1: Spectrometric method'	Specifies a method for the determination, by a spectrometric method, of the total capsaicinoid content of whole or powdered chillies and their oleoresins. This method of analysis requires discoloration by carbon black.
20.	**ISO 7543-2 : 1993** 'Chillies and chilli oleoresins — Determination of total capsaicinoid content — Part 2: Method using high-performance liquid chromatography'	Specifies a method for the determination, by high-performance liquid chromatography, of the total capsaicinoid content of whole or powdered chillies (usually *Capsicum frutescens* L.) and their extracts (oleoresins). This content is calculated from the total of capsaicin, nordihydrocapsaicin and dihydrocapsaicin, expressed as nonyl acid vanilylamide, which is the chosen reference substance. This method enables the separation of capsaicin and nonyl acid vanilylamide.
21.	**ISO 11027 : 1993** 'Pepper and pepper oleoresins — Determination of piperine content — Method using high-performance liquid chromatography'	Specifies a method for the determination (by high-performance liquid chromatography) of the piperine content of ground pepper, whole pepper and oleoresins of pepper. The method enables a separation and, if necessary, the determination of the other alkaloids of pepper (isochavicine, isopiperine and piperittin).
22.	**ISO 13685 : 1997** 'Ginger and its oleoresins — Determination of the main pungent components (gingerols and shogaols) — Method using high-performance liquid chromatography'	Describes a method for the determination of gingerols (6)-G, (8)-G and (10)-G and the corresponding shogaols (6)-S, (8)-S and (10)-S in dried ginger or in oleoresins of ginger, by high-performance liquid chromatography (HPLC) in the reverse phase.

NOMENCLATURE / VOCABULARY

Sl No.	ISO Standard	Scope
1.	**ISO 676 : 1995** 'Spices and condiments — Botanical nomenclature' **ISO : 1995/Cor 1 : 1997**	Gives a non-exhaustive list of the botanical names and common names in English and French of plants or parts of plants used as spices or condiments. Replaces the first edition, which has been technically revised.
2.	**ISO 3493 : 2014** 'Vanilla — Vocabulary'	This International Standard defines the most commonly used terms relating to vanilla. It is applicable to the following species of vanilla plants: a) *Vanilla fragrans* (Salisbury) Ames, syn. *Vanilla planifolia* Andrews, commercially known under various names associated with the geographical origin, such as Bourbon, Indonesia and Mexico; b) *Vanilla tahitensis* J.W. Moore; c) certain forms obtained from seeds, possibly hybrids, of *Vanilla fragrans* (Salisbury) Ames. It is not applicable to *Vanilla pompona* Schiede (Antilles vanilla).

SAMPLING METHODS

Sl No.	ISO Standard	Abstract
1.	**ISO 948 : 1980** 'Spices and condiments — Sampling'	Contains information on the apparatus required, constitution of lots, the method of taking increments, bulk samples, laboratory samples, packing and labelling of samples, storage and despatch of samples, and the data to be included in the sampling report.
2.	**ISO 2825 : 1981** 'Spices and condiments - Preparation of a ground sample for analysis'	Specifies a method of preparing a ground sample of spice or condiment for analysis, from a laboratory sample obtained by the method specified in ISO 948.