

50
years



INTERNATIONAL
COFFEE
ORGANIZATION

PM 29/13

15 August 2013
Original: English

E

Promotion and Market Development Committee
6th meeting
9 September 2013
Belo Horizonte, Brazil

National quality standards

Background

1. At the 110th Session of the International Coffee Council in March 2013, the Secretariat committed to providing a report on national quality standards for coffee in Member countries, including information on grading and certification systems. To that end, this document provides a summary of the replies received from Members to documents ED-2151/13, ED-2143/12, ED-2124/11 Rev. 1 and ED-2100/10, which requested information from Members about their national coffee quality standards.

Action

The Promotion and Market Development Committee is requested to consider this document.

NATIONAL QUALITY STANDARDS

The information contained in this document is based on replies received from Members to documents ED-2151/13, ED-2143/12, ED-2124/11 and ED-2100/10, which requested information on national quality standards, including grading and classification systems. To date, replies on quality standards have been received from the following exporting countries: Brazil, Colombia, Costa Rica, Cuba, Ecuador, Gabon, Haiti, Indonesia and Mexico. Furthermore, both Guatemala and Yemen have informed the Secretariat that they do not yet implement quality standards for coffee. In terms of importing countries, replies have been received by the EU (Czech Republic, Germany and Italy) and the USA.

The aim of this document is to collate this information on the various legislations and regulations concerning national quality standards in Member countries. Where possible, effort has been made to summarise or briefly explain the regulations in place for any given country. However, in some cases, only the respective code and descriptions for the relevant pieces of legislation have been given. The main focus of this document is green coffee destined for export, but information on standards for roast and ground coffee and soluble coffee have also been given where available.

According to *The Coffee Exporter's Guide* by the International Trade Centre, coffee is usually graded on the basis of one or more of the following criteria:

- Altitude and region
- Botanical variety
- Preparation (wet or dry process; washed or natural)
- Bean size, shape or colour
- Number of defects
- Roast appearance and cup quality (flavour, characteristics, cleanliness)
- Bean density.

The most common criterion given by Members is the classification system for bean size; therefore, where possible, focus has been placed on giving the definitions of different coffee types according to their screen sizes for each country. In most countries, bean size is determined by passing the coffee over a perforated screen, which retains beans of a certain size while letting smaller beans pass through. The screen size is given in terms of 1/64 of an inch, where screen size 10 is 10/64 of one inch, screen size 12 is 12/64 of one inch, and so forth. Screen sizes are also given in metric units below.

Screen number	10	12	13	14	15	16	17	18	19	20
ISO dimensions (mm)	4.00	4.75	5.00	5.60	6.00	6.30	6.70	7.10	7.50	8.00

Source: *The Coffee Exporter's Guide*

The contents of this document are based on information made available by Members and in the public domain. Reasonable effort has been made to ensure its accuracy at time of publication. However, the ICO does not warrant the accuracy of this information and cannot accept responsibility for errors, inaccuracies or omissions that may be contained in this document.

I. EXPORTING COUNTRIES

BRAZIL

Coffee standards in Brazil are predominantly regulated by the Ministry of Agriculture (MAPA), which issues *Instruções Normativas* on aspects of agricultural quality and classification. Coffee is also affected by the *Agência Nacional de Vigilância Sanitária* (ANVISA), an autonomous agency in the Ministry of Health, which issues regulations through its Executive Board regarding aspects of food safety and health.

Currently, the classification of raw green coffee beans is directly regulated by *Instrução Normativa N^o. 8/2003*, by the Ministry of Agriculture. Coffee is categorized initially into *Coffea arabica* and *Coffea canephora*, and subsequently into subcategories of *Chato* (flat) and *Moca* (peaberry), according to the size and shape of the bean (see table below). The regulation also provides details of qualitative classifications of Arabica and Robusta according to their aromas and flavours, as well as limits for moisture content, defects and impurities.

Denomination	Screen size
Chato graúdo	17, 18 and 19
Chato médio	15 and 16
Chato miúdo	14 and under
Moca graúdo	11, 12 and 13
Moca médio	10
Moca miúdo (moquinha)	9 and under

In May 2010, the Ministry of Agriculture issued a regulation regarding the quality standards of roast and ground coffee, *Instrução Normativa N^o. 16/2010*. However this was initially deferred by two years by *Instrução Normativa N^o. 6/2011*, and finally repealed in February 2013 by *Instrução Normativa N^o. 7/2013*.

Finally, coffee must also comply with Ministry of Health resolution N^o. 277 of 2005, which gives definitions and health requirements for roasted, soluble and decaffeinated coffee.

A full list of relevant regulations can be found below:

Code	Description
Instrução Normativa Nº. 8, de 11 de junho de 2003	Technical standards for identity and quality for classification of processed green coffee beans
Instrução Normativa Nº. 16, de 24 de maio de 2010	Technical standards for roasted coffee beans and for roast and ground coffee.
Instrução Normativa Nº. 6, de 22 de fevereiro de 2011	Determines that the sensorial analysis for roasted coffee and roast and ground coffee, as provided in MAPA Regulation Act No. 16 of 24 May 2010, will only be required 24 months after the publication of this Regulation Act.
Instrução Normativa No. 7, de 22 de fevereiro de 2013	To revoke the Regulation Act No. 16 of 24 May 2010, published in Brazil's Federal Official Gazette of 25 May 2010, Section 1.
Resolução de Diretoria Colegiada – RDC Nº. 175, de 8 de julho de 2003	Technical standards for the evaluation of macroscopic and microscopic materials found in packed food which are harmful to human health.
Resolução de Diretoria Colegiada – RDC Nº. 277, de 22 de setembro de 2005	Technical standards for coffee, barley, maté and soluble products.

COLOMBIA

National quality standards in Colombia are regulated by the *Comité Nacional de Cafeteros*, which is composed of representatives of the Colombian National Government and by the Colombian Coffee Growers Federation (FNC), according to Resolution No. 5 of 2002. This regulation also resolves minimum quality standards for the export of green coffee beans. Coffee is graded according to its size, moisture content, defects, odour, colour and cup taste. The resulting classifications are as follows:

Denomination	Description
1. Premium	Screen size 18, with tolerance of 5% at screen 14
2. Supremo	Screen size 17, with tolerance of 5% at screen 14
3. Extra	Screen size 16, with tolerance of 5% at screen 14
4. Excelso	Screen size 14 with tolerance for 1.5% at screen 12. At least 50% must be screen 15
5. Caracol	Screen size 12, with tolerance for up to 10% of flat beans

Defects are classed in two groups:

1. Fully or partially black beans; sour or partially sour beans; faded or oldish beans; faded, amber or buttery beans.

2. Wet or underdried beans; mouldy beans; crystallised beans; faded or streaked beans; over-dried beans; cut or nipped beans; insect damaged; shrunk beans; immature beans; pressed or crushed beans.

A 500 gram sample of green coffee can contain up to 72 defects, with a maximum of 12 beans from Group 1.

In all cases, moisture content must not exceed 12%, and the coffee must have its characteristic odour, a uniform colour, and be free from defective flavours. The regulation also gives limits for the presence of damage from coffee berry borer.

COSTA RICA

Norms and standards in Costa Rica are administered by the *Instituto de Normas Técnicas de Costa Rica (INTECO)*. In cooperation with the *Instituto del Café de Costa Rica (ICAFFE)*, quality standards for green coffee were developed in 2007 and roasted coffee in 2010. Furthermore, INTECO is currently undergoing a process of developing eight Designations of Origin and Geographical Indicators for Costa Rican coffee.

The resulting technical norms and evaluation techniques are given below.

1. Green coffee

Code	Description
INTE 24-01-01:2011	Green coffee. Requirements.
INTE 24-01-03:2011	Green coffee. Sensorial analysis.
INTE 24-01-04:2011	Green coffee. Defect reference chart.
INTE/ISO 4072:2011	Green coffee. Olfactory and visual examination. Determination of foreign matter and defects.
INTE/ISO 4150:2011	Green coffee. Granulometry analysis – manual screening.
INTE/ISO 6669:2011	Green coffee. Determination of density.
INTE/ISO 6668:2011	Green coffee. Sample preparation for sensorial analysis.
INTE/ISO 6673:2011	Green coffee. Determination of loss of mass at 105°C.
INTE/ISO 6666:2011	Coffee sampling – Sampler for green coffee and parchment coffee.

2. *Roasted Coffee*

Code	Description
INTE 24-02-01:2011	Roast and ground coffee. Requirements.
INTE/ISO 3509:2011	Green coffee and its derivatives – Vocabulary.
INTE 24-02-02:2011	Roast and ground coffee. Method for the determination of particle size.
INTE 24-02-03:2011	Roast and ground coffee. Determination of coffee roasting.
INTE 24-02-04:2011	Roast and ground coffee. Determination of total ashes (dry basis).
INTE/ISO 20481:2011	Roast and ground coffee. Determination of caffeine content using high performance liquid chromatography (HPLC). Reference method.
INTE 24-02-07:2011	Roast and ground coffee. Determination of total sugar content using higher performance liquid chromatography (HPLC).
INTE 24-02-08:2011	Roast and ground coffee. Determination of nipped beans.
INTE /ISO 4833:2011	Microbiology of food for human and animal consumption. Horizontal method for the enumeration of microorganisms. Colony count technique at 30°C.
INTE/ ISO 4831:2011	Microbiology of food and food for animals. General guide for the enumeration of coliforms. Most Probable Number (MPN) technique.
INTE/ ISO 11294:2011	Roast and ground coffee. Determination of moisture content.

CUBA

Quality standards in Cuba are administered by the *Oficina Nacional de Normalización*, part of the *Ministerio de Ciencia, Tecnología y Medio Ambiente (CITMA)*. In order to ensure the quality and safety of processed coffee products in Cuba, the following *Normas Cubanas (NC)* are implemented:

Code	Description
NC 143:2010	Code of Practice. General principles of food hygiene.
NC 454:2006	Food transportation.
NC 455:2006	Food handling. General health requirements.
NC 492:2006	Food storage.
NC 801:2010	Green coffee. Quality specifications.
NC 18001:2005	Workplace safety and health system. Requirements.
NC ISO 9116:2008	Green coffee. Guide for specification methods.
NC ISO 14000:2002	Environment.
NC ISO 22000:2005	Food Safety Management System (HACCP).

Furthermore, in terms of food security, the following *Programas Pre-requisitos (PPR)* are implemented:

Code	Description
PPR-002	Sanitation.
PPR-003	Control and collection of solid and liquid waste.
PPR-005	Drinking water control.

ECUADOR

Norms and standards are regulated by the *Instituto Ecuatoriano de Normalización (INEN)*. The regulation which establishes the requisite standards for coffee is *Norma Técnica Ecuatoriana INEN 1123:2006*. It gives the following classification for roast and ground coffee:

Denomination	Screen size
Extrafino	Less than 350µm
Fino	350µm to 500µm
Mediano	500µm to 700µm
Grueso	700µm to 900µm

Furthermore, Ecuador is also undergoing a process of updating its standards regulating green coffee in accordance with ISO norms, including *NTE INEN 285:2006: Café verde. Requisitos*, which covers the classification and specifications of green coffee beans. The following technical norms were updated in 2012:

Code	Description
NTE INEN-ISO 4149:2012	Green coffee: Olfactory and visual examination and determination of foreign matter and defects.
NTE INEN-ISO 6673:2012	Green coffee: Determination of loss of mass at 105°C.
NTE INEN-ISO 8455:2012	Green coffee: Guide for storage and transportation.
NTE INEN-ISO 6668:2012	Green coffee: Sample preparation for sensorial analysis.
NTE INEN-ISO 4072:2012	Green coffee in bags – sampling.
NTE INEN-ISO 3509:2012	Coffee and its derivatives – vocabulary.
NTE INEN-ISO 6667:2012	Green coffee. Determination of the proportion of beans damaged by insects.
NTE INEN-ISO 1446: 2012	Green coffee. Determination of water content – basic reference method.
RTE INEN 068:2012	Coffee, tea, aromatic herbs and energy drinks.

GABON

Commercial coffee in Gabon is sorted at the national level by representatives of the *Caisses de Stabilisation et Perequation (CAISTAB)*, according to the following classifications:

Denomination	Screen size
Grade 1	16
Grade 2	14
Grade 3	10

Subsequently, the coffee is checked for defects by representatives of the *Service du Conditionnement*, part of the Ministry of Agriculture. Defects are allocated a coefficient, as given in the table below:

Defects	Coefficient
Dry affected beans	2
Black beans	1
Sour beans	1
Cherry beans (unhulled)	1
Quaker beans	0.20
Bleached beans	0.20
Unwanted beans	0.20
Broken	0.20
Broca-damaged beans	0.10

This coefficient is then multiplied by the number of defects in a 300 gram sample to determine the quality:

Category	Number of defects
Supérieur	Less than 30
Courant	30 to 90
Limité	90 to 240
Déclassé	Over 240

HAITI

The coffee industry in Haiti follows the quality standards of the Specialty Coffee Association of America (SCAA), in terms of the number of defects. Haiti also uses the following specifications for screen sizes:

Screen number	10	12	13	14	15	16	17	18	19	20
Diameter in mm	3.97	4.76	5.16	5.55	5.95	6.35	6.75	7.14	7.54	7.94

The coffee classifications as given by the *Institut National du Café d'Haiti (INCAH)* are as follows:

Denomination	Description
Haitian Bleu A	17+
Haitian Bleu B	15-16
Haitian Bleu C	14
Café Pilé	5X, 3X, XXG, XX, X, BRI, TRI

INDONESIA

National standards for coffee in Indonesia are regulated by Indonesian National Standard #SNI 01-2907-2008 for coffee beans, which gives quality classifications for Robusta and Arabica coffee as follows:

Denomination	Description
Quality 1	Maximum number of defects 11*
Quality 2	Number of defects from 12 to 25
Quality 3	Number of defects from 26 to 44
Quality 4a	Number of defects from 45 to 60
Quality 4b	Number of defects from 61 to 80
Quality 5	Number of defects from 81 to 150
Quality 6	Number of defects from 151 to 225

* For peaberry and polyembrio coffee

NB Quality 4 is not divided into category 4a and 4b for Arabica coffee

MEXICO

There are two types of quality standard in Mexico: the first are *Normas Oficiales Mexicanas (NOMs)*, which are mandatory safety requirements required by law. The second type are voluntary compliance standards, known as *Normas Mexicanas (NMX)*, which act as a reference guide of rules, specifications and testing methods. Both sets of standards are implemented by the *Dirección General de Normas*, part of the *Secretaría de Economía*.

According to *NMX-F-551-SCFI-2008*, coffee is graded according to the following specifications:

Description	Colour uniformity (%)	Screen size	Number of defects	% of defects
1. <u>Estrictamente Altura y Altura</u>				
Europea	95-100	75% > 15 25% < 15	<13	< 1.5
Americana	90-95	75% > 15 25% < 15	14 < > 26	> 1.5 <3.0
2. <u>Extra Prima Lavado y Prima Lavado</u>				
Europea	95-100	75% > 14 25% ≤ 14	≤ 21	< 1.5
Americana	90-95	75% > 13 25% =< 13	≤30 >1	5 < 3.0
3. <u>Maragogype</u>				
Europea	-	90% > 19 10% > 18	< 5	< 1
Americana	-	90% > 18 10% > 15	< 12	< 2

A full list of NOM and NMX standards affecting coffee can be found below:

Code	Description
NOM-002-FITO-2000	By which the campaign against coffee berry borer is established.
NOM-019-FITO-1995	By which the exterior quarantine is established to prevent the introduction of coffee pests and diseases.
NOM-149-SCFI-2001	Café Veracruz – specifications and test methods.
NOM-169-SCFI-2007	Café Chiapas – specifications and test methods.
NMX-F-013-SCFI-2010	Pure roasted coffee, in whole bean or ground form, not decaffeinated or decaffeinated – specifications and test methods (cancels NMX-F-013-SCFI-2000).
NMX-F-107-SCFI-2008	Green coffee in bags – sampling.
NMX-F-129-SCFI-2008	Green coffee – sample preparation for sensorial analysis.
NMX-F-139-SCFI-2010	Pure soluble coffee, not decaffeinated or decaffeinated – specifications and test methods (cancels NMX-F-139-SCFI-2004).
NMX-F-158-SCFI-2008	Green coffee – olfactory and visual inspection – determination of defects and foreign matter.
NMX-F-162-SCFI-2008	Green coffee – defect reference chart.
NMX-F-173-SCFI-2011	Roasted coffee mixed with sugar (cancels NMX-F-173-S-1982).
NMX-F-176-SCFI-2008	Green coffee – determination of loss of mass at 105°C.
NMX-F-177-SCFI-2009	Specialty green coffee – specifications, classification and sensorial evaluation.
NMX-F-180-SCFI-2010	Coffee – determination of caffeine content – test method.
NMX-F-181-SCFI-2010	Green coffee – determination of moisture content – test method.
NMX-F-182-SCFI-2011	Coffee – determination of caffeine content – high performance liquid chromatography method (reference method).
NMX-F-187-SCFI-2012	Green coffee – storage and transportation.
NMX-F-551-SCFI-2008	Green coffee – specifications, preparations and sensorial evaluation (cancels NMX-F-551-SCFI-1996).
NMX-F-552-SCFI-2009	Decaffeinated green coffee – specifications and test methods (cancels NMX-F-552-SCFI-1998).
NMX-F-586-SCFI-2008	Coffee and its products – vocabulary – terms and definitions.
NMX-F-593-SCFI-2013	Green and roasted coffee – determination of density apparent by the free fall of whole coffee beans – routine method.
PROY-NMX-F-190-SCFI-2013	Roast and ground coffee – determination of moisture content – Karl Fischer Method (reference method).

II. IMPORTING COUNTRIES

EUROPEAN UNION

CZECH REPUBLIC

National quality standards for tea and coffee products in the Czech Republic are regulated by Ministry of Agriculture decree No. 78/2003.

GERMANY

The relevant standards for the analysis of coffee and coffee products, as administered by the *Deutsches Institut für Normung (DIN)* are given below:

Code	Description
DIN 10764-2	Analysis of coffee and coffee products – Determination of loss in mass of soluble coffee – Part 2: Method using vacuum oven (routine method)
DIN 10764-3	Testing of coffee and coffee products; determination of dry matter content of soluble coffee, sea sand method
DIN 10764-4	Analysis of coffee and coffee products – Determination of loss in mass of soluble coffee – Part 4: Method for soluble coffee and soluble coffee products by heating under atmospheric pressure (routine method)
DIN 10765	Analysis of coffee and coffee products; determination of particle size of ground roasted coffee, air-jet sieving method
DIN 10766	Analysis of coffee and coffee products; determination of water content of green coffee, dioxane distillation, Karl Fischer titration
DIN 10767	Analysis of coffee and coffee products; determination of chlorogenic acids content; HPLC method
DIN 10768	Analysis of coffee and coffee products; determination of insoluble matter content of instant coffee
DIN 10772-1	Analysis of coffee and coffee products – Karl Fischer method for the determination of water content – Part 1: Reference method for roasted coffee
DIN 10772-2	Analysis of coffee and coffee products – Karl Fischer method for the determination of water content – Part 2: Reference method for soluble coffee
DIN 10775-1	Analysis of coffee and coffee products; determination of water-soluble extract; method for roasted coffee
DIN 10776-1	Analysis of coffee and coffee products; determination of pH and acid content; method for roasted coffee
DIN 10776-2	Analysis of coffee and coffee products - Determination of pH and acid content - Method for soluble coffee
DIN 10779	Analysis of coffee and coffee products – Determination of 16-O-methyl cafestol content of roasted coffee – HPLC-method

DIN 10780	Instant coffee – Determination of free and total carbohydrate contents - Method using high-performance anion-exchange chromatography
DIN 10781	Roasted ground coffee – Determination of loss in mass at 103 °C (Routine method for the determination of moisture content)
DIN 10783	Analysis of coffee and coffee products – Determination of dichlormethane in decaffeinated green coffee using headspace gaschromatography
DIN 10785	Analysis of coffee and coffee products – Determination of acrylamide – Methods using HPLC-MS/MS and GC-MS after derivatization
DIN ISO 20481	Coffee and coffee products – Determination of the caffeine content using high performance liquid chromatography (HPLC) – Reference method (ISO 20481:2008)
DIN ISO 6673	Green coffee – Determination of loss in mass at 105 °C (ISO 6673:2003)

Furthermore, Germany also implements the *Ordinance relating to coffee, coffee extracts and chicory extracts* of 15 November 2001 (implementing Directive 1999/4/EC of the European Parliament and of the Council of 22 February 1999 relating to coffee extracts and chicory extracts in German law). The Ordinance not only stipulates the labelling of coffee, but also prohibits the marketing of roasted coffee that contains more than two grams of constituents other than green coffee per kilogram unless it is labelled as unsorted coffee or low-quality coffee.

ITALY

Since 1973, minimum standards for green and roasted coffee have been regulated by the specific legislation *Decreto del Presidente della Repubblica (DPR) 16/02/1973, n. 470: Regolamento per la disciplina igienica della produzione e del commercio del caffè e dei suoi derivati*.

UNITED STATES OF AMERICA

Information on coffee standards in the United States is provided by the Agricultural Marketing Service, a department of the United States Department of Agriculture (USDA). The AMS issues Commercial Item Descriptions (CIDs) for agricultural products, which describe the most important characteristics for a specific product. The CID may also provide information on certain analytical tests and requirements for food safety and hygiene. CIDs are not mandatory regulations, but rather provide a procurement description for use by purchasers. The CIDs for coffee and soluble coffee are available on the AMS website at www.ams.usda.gov, and provide guidelines on the classification, salient characteristics and analytical requirements for coffee.

The USDA also provides regulations on organic standards through its National Organic Program (NOP), and offers voluntary inspections of grading, certification and verification procedures through its Audit Program.

Furthermore, standards for specialty coffee in the United States are given by the Specialty Coffee Association of America (SCAA). The SCAA currently provides standards on green coffee (defects, sample size, lighting and surface), water (for brewing specialty coffee), and cupping (coffee-to-water ratio, vessel size, water temperature, water, grind, roast, roast level, room size, spoon size and table size). More information is available on the SCAA website at <http://www.scaa.org/?page=resources&d=coffee-standards>.