CARICOM REGIONAL STANDARD

Cocoa bean quality — Sampling requirements

DCRS 82: 202X

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Committee representation

This CARICOM Regional Standard was developed by the Regional Technical Sub-Committee for Cocoa (hosted by the CARICOM Member State, Trinidad and Tobago) under the supervision of the Regional Technical Committee for Agricultural Produce, RTC 3A (hosted by the CARICOM Member State Dominica), which at the time comprised the following members:

Members	**Representing**
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Mr Andrew Hastick Mr Romel Sylvester (Alternate)	Grenada Cocoa Association
Ms Anuradha Pooran-Ramroop	Cocoa Development Company of Trinidad and Tobago Ltd
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Ms Taletha Laudat	Technical Expert, Dominica
Ms Adrienne Stewart **(Technical Secretary)** Ms Nkechi Williams	Trinidad and Tobago Bureau of Standards

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Foreword

This CARICOM Regional Standard CRS 82:202X, Cocoa bean quality – Sampling requirements has been developed under the authority of the CARICOM Regional Organisation for Standards and Quality (CROSQ). It was approved as a CARICOM Regional Standard by the CARICOM Council for Trade and Economic Development (COTED) at its XX Meeting in MM YYYY.

Representative sampling in cocoa beans involves selecting and preparing samples in a way that accurately reflects the overall quality and characteristics of the entire bean lot, ensuring that subsequent quality assessments and analyses are reliable and meaningful.

This standard seeks to contribute to the reduction of challenges including, sampling bias and systematic errors, related to obtaining a representative sample from cocoa bean lots for quality assessment.

This standard is intended for use by:

a) producers and exporters – to inform the process for obtaining representative cocoa samples;

b) laboratories – to facilitate representative test sampling; and

c) regulators – to facilitate inspections and determine compliance to applicable regulatory requirements.

In formulating this standard considerable assistance was derived from the following publications which were still current when this standard was being developed:

— CAOBISCO/ECA Cocoa Beans: Chocolate and Cocoa Industry Quality Requirements. December 2023. (End, M.J. and Dand, R., Editors), CAOBISCO/ECA, Brussels

— Cacao of Excellence. 2024. Guide for the Assessment of Cacao Quality and Flavour. Compiled by the Cacao of Excellence programme of the Alliance of Bioversity International and CIAT, in collaboration with the members of the Working Group on the development of the International Standards for the Assessment of Cocoa Quality and Flavour (ISCQF). Bioversity International. 216 Pages. ISBN 978-92-9255-295-4 Print Issue, ISBN 978-92-9255-296-1 Digital Issue

International Organization for Standardization

— ISO 2292:2018, *Cocoa beans – Sampling*

This standard includes the following informative annexes which provide information for guidance purposes only, in the application of this standard:

— Annex A (informative) – Sampling tools

— Annex B (informative) – Guidance on sampling

— Annex C (informative) – Additional information on microlots

— Annex D (informative) – Sample retention

— Annex E (informative) – Process of coning and quartering

— Annex F (informative) – Example of sampling report.

Introduction

While cocoa (*Theobroma cacao* **L**.) was formally introduced to many parts of the Caribbean by European colonial powers in the 17th century as part of the establishment and expansion of plantation economies, its native presence especially in Belize and Suriname clearly predates colonisation. Cocoa in the region is also inextricably woven into the historical narrative of indigenous peoples in the region as well as introduced peoples from Africa, India, China, and elsewhere. These contributions have been central to the evolution of cocoa cultivation and processing in the Caribbean, forming a rich and multifaceted legacy. The region also developed a distinctive cocoa profile - most notably through the Trinitario variety, which originated in Trinidad as a hybrid of Criollo and Forastero types. This genetic heritage, paired with favourable agro-ecological conditions and traditional knowledge has influenced the region's identity as a producer of exceptional quality cocoa.

In today's global cocoa market, a clear distinction exists between "bulk" and "fine flavour" cocoa. Bulk cocoa makes up the majority of international trade, while fine flavour cocoa, used in premium chocolates, represents about 12% of the market. This niche segment demands specific flavour characteristics, traceability, and sustainable production practices. The Caribbean, with its rich genetic resources and unique quality attributes, is well positioned to meet these requirements. Notably, five CARICOM Member States are formally recognised under Annex C of the International Cocoa Agreement (2010) as either exclusive, or in the case of Haiti, partial producers of fine flavour cocoa.

However, the regional cocoa sector faces several interrelated constraints, including aging plantations and an aging farming population, small and often fragmented farm holdings, and the loss of productive cocoa land due to urbanisation and competing land uses. Additionally, many areas suffer from inadequate infrastructure and limited access roads, which hinders efficient production and transport. The sector is also increasingly impacted by climate change, as well as by evolving international food safety standards and trade regulations. Together, these challenges limit the ability of producers to consistently meet global market expectations for quality, traceability, and regulatory compliance.

This suite of CARICOM Regional Standards for Cocoa Beans has been developed as a strategic response to these challenges. The standards provide a harmonised framework to support quality improvement, facilitate traceability, promote sustainable and climate-resilient practices, and enhance access to high-value markets. They establish clear, measurable criteria that define the attributes of fine flavour cocoa, creating a benchmark for excellence that producers, processors, exporters, and regulators across the region can adopt and apply consistently.

These standards are not only intended to raise the profile of Caribbean cocoa globally, but also to serve as a catalyst for regional development. By strengthening cocoa value chains, supporting local agro-processing, and creating new opportunities for income generation, the standards contribute to the growth of a more competitive, sustainable, and inclusive cocoa economy. They also align with CARICOM's broader objectives for agricultural diversification, rural development, and environmental stewardship.

CROSQ, in collaboration with regional and national stakeholders, presents this suite of standards as a vital instrument towards a more sustainable regional cocoa economy to guide the transformation of the Caribbean cocoa sector - ensuring that it remains viable, vibrant, and valuable for future generations.

1 Scope

This document, intended for use by CARICOM Member States, specifies the requirements for obtaining representative samples from cocoa lots of varying sizes for the purpose of assessing cocoa bean quality. It also provides guidance on the appropriate sampling tools and outlines the procedures to be followed during the sampling process.

This standard does not apply to bulk cocoa.

2 Normative reference

The following references are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CARICOM Regional Organisation for Standards and Quality (CROSQ)

CRS 83, *Cocoa bean quality – Specifications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in CRS 83 and the following apply.

3.1
bill of lading
legal document issued by a carrier (transportation company) to a shipper that details the type, quantity, and destination of the goods being carried.

Note 1 to entry: A bill of lading also serves as a shipment receipt when the carrier delivers the goods at a predetermined destination.

3.2
bulk cocoa
cocoa beans produced primarily for high-volume, industrial chocolate manufacturing, typically without specific flavour or origin differentiation.

Note 1 to entry: Bulk cocoa typically comes from West African countries, especially Côte d'Ivoire and Ghana, which together produce the majority of the world's cocoa.

Note 2 to entry: In contrast to fine flavour cocoa which is distinguished by its superior sensory characteristics, such as fruity, floral, nutty, or spicy notes. This type of cocoa is often associated with specific genetic varieties (like Criollo and Trinitario), post-harvest practices, and origin-specific terroirs.

3.3
cocoa bean
seed of the cocoa tree (Theobroma cacao **L**.)

Note 1 to entry: Commercially, and for the purpose of this document, the term refers to the whole seed, which has been fermented and dried.
[SOURCE: ISO 2451:2017, 3.5]

Note 2 to entry: The term cacao refers to the scientific and horticultural aspects of the trees, fruit and unfermented bean.

3.4
composite sample
combined sample of cocoa beans created by mixing all primary samples, as applicable, collected from a single lot.

3.5
coning
pouring or heaping the composite sample so that it takes on a conical shape

3.6
container
any type of containment used to protect cocoa beans from the environment, infestation and contamination and in a ready state for sampling, including jute bags, other bag types and hard lidded-containers

3.7
fermented cocoa
cocoa beans which have undergone temperature and microbial-induced biochemical reactions with the entry of organic acids that result in destroying of the germ (embryo), development of flavour and improvement in palatability

3.8
food safe
materials, containers, equipment or utensils which are scientifically proven to be inert, non-toxic, stable, when in contact with food and therefore will not contribute to contamination of the food, including jute bags, other types of commercial bags, and hard lidded-containers

3.9
lot
defined quantity of cocoa beans in a container established at any point in the cocoa supply chain and from which primary or incremental samples are drawn for quality analysis purposes

Note 1 to entry: The requirements for quality analysis are specified in CRS:83.

3.10
microlot
unique, traceable batch or lot considered as a production unit that can be identified by the same code, that is, same product, same label, same type of container, fermented and dried under similar conditions, and representing a specific time period and may consist of one fermentation batch or combinations thereof (see Annex C)

3.11
primary sample
incremental sample
small quantity of cocoa beans collected from a single point within a randomly selected, intact container

Note 1 to entry: The requirements for sampling from cocoa beans in containers are specified in 5.3.

3.12
quartering
process by which a composite sample is reduced by flattening out the cone into a cake and dividing into four equal parts

3.13
reference sample
representative sample prepared by successively quartering the composite sample such that a maximum of 2 kg net remains

3.14
sampler
person qualified and authorized to collect samples in accordance with specified procedures

Note 1 to entry: The requirements on how to draw samples are specified in Clause 5.

3.15
sampling
process of collecting primary samples from containers of cocoa beans and combining them to prepare a composite sample, from which a reference sample is derived

3.16
shipping mark
physical identification, shown on individual packages, used to help move freight without delay or confusion to their final destination and to facilitate verifying goods against their associated documents

3.17
sound
free from damage incurred during handling, transport, or storage, regardless of their intrinsic quality

3.18
test sample
representative portion of cocoa beans taken from the reference sample and used in the preliminary assessment of bean quality

3.19
warehouse
building or physical structure that is suitable in all respects for the storage of cocoa beans

3.20
warehouse warrant
warrant
documents stating the ownership of a specific quantity of products with specific characteristics stored in a specific warehouse for a specific fee

4 Sampling tools

4.1 Containers

4.1.1 Cocoa beans shall be stored, for sampling, in food-safe, vegetable oil treated (VOT) jute bags, other bags types, hard lidded-containers or any other suitable containers.

NOTE 1 The treatment of jute bags with vegetable oil improves the flexibility and strength of the bags.

NOTE 2 Mineral oil is not considered for use on jute bags in which cocoa is stored.

4.1.2 All bag-type containers shall be such to prevent cocoa bean contamination.

4.1.3 Hard lidded-containers shall be dedicated for cocoa bean storage and where re-used, such containers shall be washed and sanitized and in such condition, so as to prevent any contamination to the cocoa beans.

4.1.4 All containers shall be sealed in a manner as to secure the contents during normal conditions of storage and shipment.

4.1.5 Containers shall not be filled beyond the maximum capacity, as recommended by the manufacturer.

4.1.6 Where used, bags shall be:

a) filled in such a manner so as to avoid overfilling and to allow for efficient sealing; and

b) of sufficient thickness and strength to prevent bursting under the weight of the beans.

4.1.7 Food safe lidded-buckets or other similar containers shall be used to hold primary samples.

4.2 Sampling, mixing, coning and quartering tools

4.2.1 Where cocoa beans are stored in VOT jute bags, simple sampling spears or sampling horns specially designed for jute bags shall be used to extract samples (see Annex A, Figure A.1).

4.2.2 A food grade scoop and bucket shall be used to extract samples where non-jute bags and hard-lidded containers are used for cocoa bean storage (see Annex A, Figures A.2 and A.3).

4.2.3 A clean surface shall always be used, on which to pour out the composite bean sample for mixing, coning and quartering.

4.2.4 Shovels, scoops, conical dividers, quartering irons, or other suitable dividing apparatus, that are made of food-safe material, shall be used for mixing, coning and quartering.

5 Sampling

5.1 General requirements

5.1.1 Sampling shall be carried out by a sampler.

5.1.2 A sufficient number of primary samples shall be collected to obtain a representative composite sample. The various types of samples are illustrated in Figure 1.

5.1.3 For each primary sample extracted, the size shall not be less than 500 g.

5.1.4 Reference samples shall only be prepared from sound cocoa beans.

5.1.5 Where a lot contains cocoa beans that are not sound, there shall be segregation from sound beans pending a decision on how the damaged beans will be addressed.

5.1.6 Where the handling of the lot has created any loose whole cocoa beans or sweepings or both of cocoa material other than whole beans then this material shall be recovered, sampled separately and stored in separate containers away from sound cocoa of the lot.

NOTE There is separation of loose beans and sweepings from sound beans to prevent contamination of the latter.

5.1.7 When reference samples are obtained they shall be promptly sealed by the interested parties.

NOTE Interested parties may be buyers, sellers or any external assessment body performing certification or testing.

5.1.8 Samples shall be enclosed, sealed and labelled in accordance with 5.4.2.

NOTE See Annex B for further information on sampling

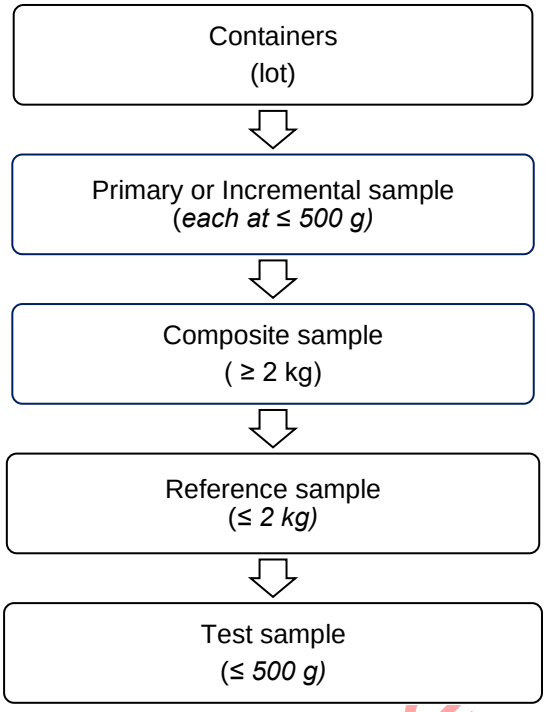


Figure 1 — Flowchart of the derivative samples

5.2 Sampling frequency

5.2.1 The minimum frequency for primary samples to be drawn from sound containers shall be as follows:

a) one (1) in every three (3) containers, for total lot amounts less than or equal to 12,500 kg but more than 1,000 kg;

b) one (1) in every five (5) containers, for amounts over 12,500 kg but less than or equal to 25,000 kg; or

c) every container, in instances where shipments are less than or equal to 1,000 kg.

The amount of primary or incremental sample drawn shall be a minimum of 500 g beans per container. The number of containers to be sampled for each shipment lot weight of primary or incremental samples per container to, initially, make up the composite sample and subsequently, the reference samples are outlined in Table 1.

NOTE The number of reference samples retained is usually two, one for the buyer and seller. More reference samples can be retained as needed for any further laboratory testing and for any regulatory agency. This arrangement is subject to change on a case by case basis.

Table 1 — Sampling frequency and sample weight per shipment lot weight

Weight of shipment (kg)	No. of containers to be sampled	Maximum weight of primary sample per container (g)
≤ 1,000	Every container	Determined based on buyer requirements or 500
>1,000 ≤12,500	1 in 3	500
>12,500 ≤25,000	1 in 5	500

5.2.2 One (1) primary sample shall be drawn from each sound container selected for sampling. The position of the sampling points within each sound container selected at random shall ensure an equal distribution of samples drawn from the top, centre or bottom of the containers within the lot

5.2.3 After primary samples are drawn from containers, samples shall be emptied onto a thoroughly clean flat surface and in an area free from any possible sources of physical, chemical or microbial contamination for the purpose of coning and quartering, to produce composite, reference and test samples.

5.2.4 Unless otherwise required, sampling holes in jute bags shall be closed to avoid spillage of cocoa.

NOTE Annex B provides additional guidance for sampling of containers.

5.3 Lot size representation by reference samples

5.3.1 Minimum

5.3.1.1 Separate sampling shall be carried out for each bean lot that is more than 1,000 kg. In such a case there shall be more than one main shipping mark, and so captured in the bill of lading or warehouse warrant (see Figure 2 for decision making on minimum lot size samples).

5.3.1.2 Interested parties may choose to have one reference sample to represent all the lots, where there are several microlots or lots of less than or equal to 1,000 kg, with more than one shipping mark.

NOTE See Annex C for further information on microlots.

5.3.2 Maximum

A single reference sample shall not represent a lot of more than 25,000 kg. Lots larger than 25,000 kg shall be represented by separate reference samples each representing no more than 25,000 kg (see Figure 3 for decision making on maximum lot size samples).

NOTE 1 The maximum lot size of 25,000 kg is equivalent to a volume shipped in a standard 40-foot equivalent unit shipping container (FEU) with dimensions of 12.192 m (length) x 2.438 m (width) x 2.591 m (height).

NOTE 2 A lot size of 12,500 kg is equivalent to a volume shipped in a standard 20-foot equivalent unit shipping container (TEU) with dimensions of 6.058 m (length) x 2.438 m (width) x 2.591 m (height).

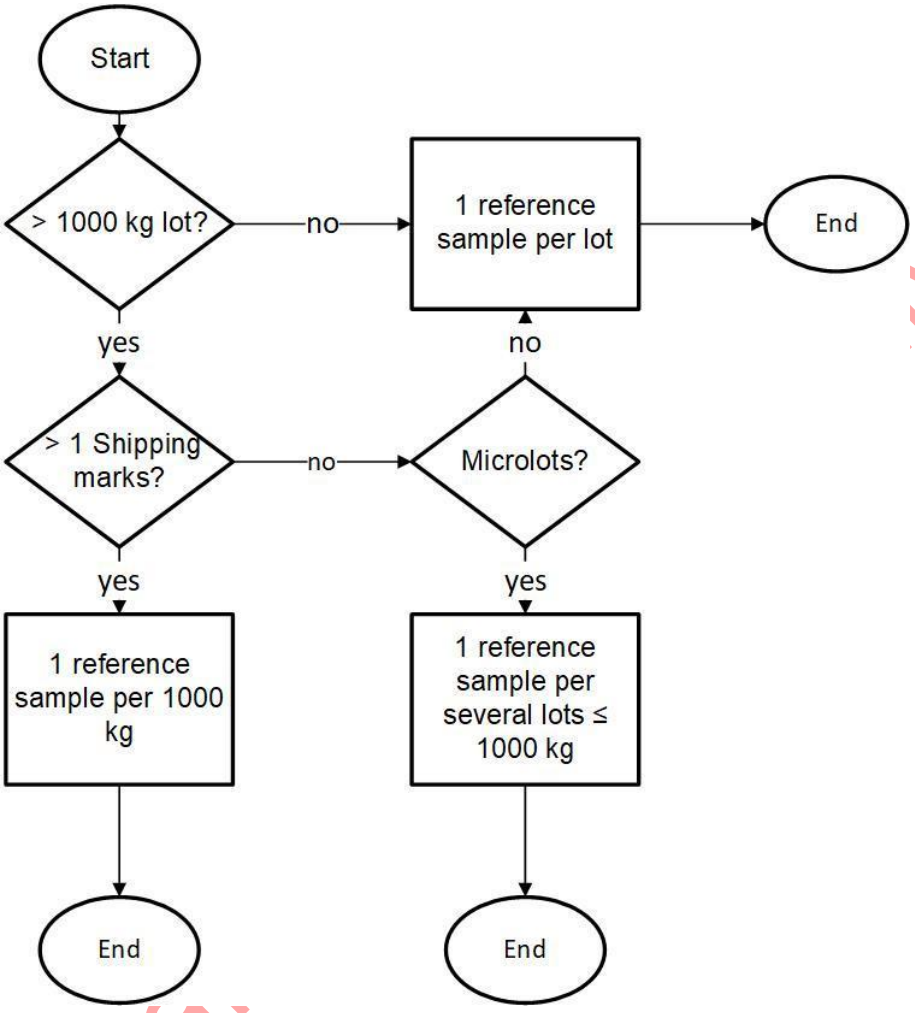


Figure 2 – Flowchart decision on number of reference samples for minimum lot size

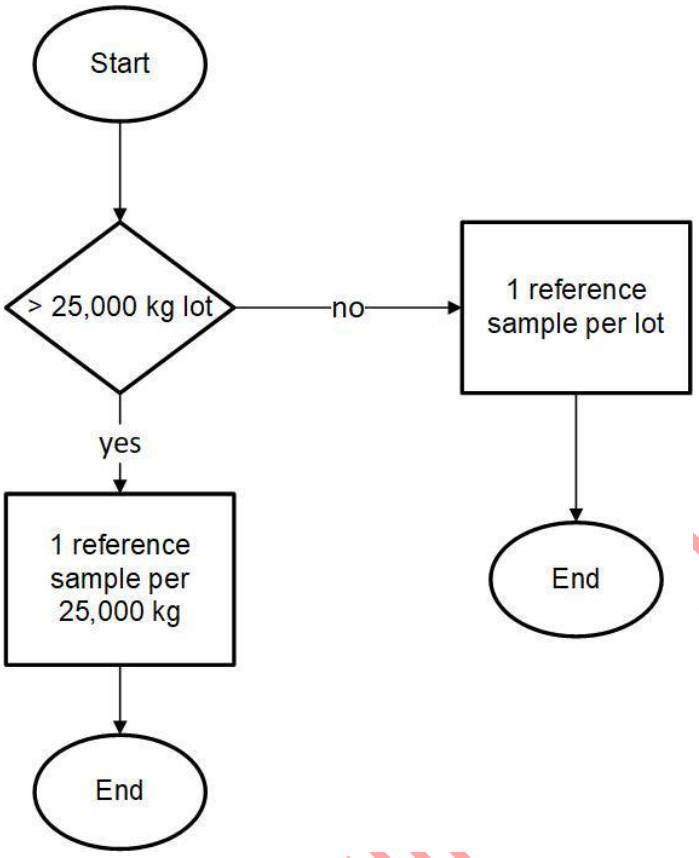


Figure 3 – Flowchart decision on number of reference samples for maximum lot size

5.4 Reference samples

5.4.1 A minimum of two (2) reference samples shall be prepared and securely sealed by the parties concerned. These samples shall be made available for testing purposes by both the supplier and the buyer, as deemed necessary.

The reference samples shall be retained under secure conditions, preferably by a neutral party mutually agreed upon by the interested parties; however, this is not mandatory.

Guidance on the procedures for sample retention is provided in Annex D.

5.4.2 The reference sample shall be prepared in accordance with the following procedure:

a) The reference sample shall be formed immediately after the preparation of the composite sample by successively applying the coning and quartering method, ensuring that a minimum net mass of 2 kg is retained per reference sample. The material selected shall be representative of the composite sample to the greatest extent possible.

b) Any remaining material from the composite sample, after the extraction of the reference samples, shall be returned to appropriate containers, properly labelled, and stored together with the original lot.

c) Each reference sample shall have a minimum net mass of 2 kg and shall be packed and sealed in containers under hygienic conditions in accordance with the requirements of CRS 83.

d) Each reference sample shall be clearly marked or labelled to indicate that it was drawn in accordance with Clause 6.3, where applicable. The label shall include, as far as practicable, the following information in the official language(s) of the CARICOM Member State(s) or the official language(s) of the export destination, where available and applicable:

1) name of vessel or flight number;
2) country of origin;
3) country region;
4) farm name;
5) primary producer, including cooperatives;
6) varieties;
7) fermentation treatment;
8) drying treatment;
9) total weight;
10) number of containers;
11) warehouse facility;
12) harvest period;
13) date of sampling; and
14) name of sampler or sampling organisation.

5.5 Sampling period

5.5.1 Sampling shall be conducted as a continuous process, without undue interruption, in order to ensure that the samples obtained are representative of the condition of the lot at a specific point in time.

5.5.2 In cases where cocoa beans are stored in storage containers, sampling shall be conducted immediately prior to their final loading into a shipping container for export, or prior to final direct sale on the local market.

6 Coning and quartering

6.1 Mixing, coning and quartering shall be carried out in such a way that the resulting reduced material is proportionally the same in all aspects as the original composite sample (see Annex E, Figures E.1 to E.4).

NOTE Quartering is dividing to reduce the quantity of the sample by half.

6.2 Mixing and quartering shall be carried out as follows:

a) heap the composite sample into a cone and then flatten the cone into a cake, divide the cake into quarters; the two quarters which sit opposite each other are removed, while the other two are combined/mixed and constitute the reduced composite sample;

NOTE This is considered the first level quartering.

b) continue the same process until an appropriate reference sample size remains; and

NOTE This is considered the second level quartering.

c) Weigh test samples (≤ 500 g) from the reference samples to carry out any analyses.

7 Sampling report

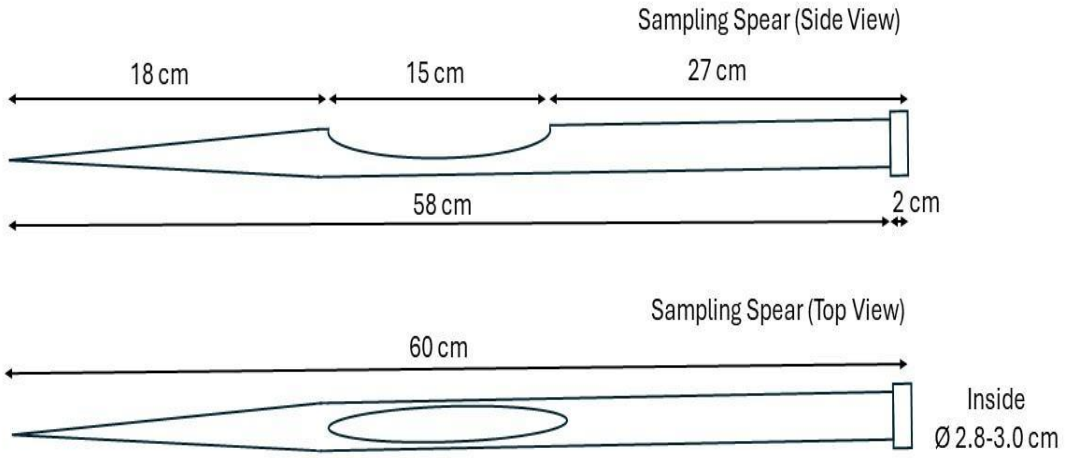
On completion of the sampling process a report should be prepared. See Annex F for an example of a sampling report for cocoa beans in containers.

Annex A
(informative)

Sampling tools

A.1 Simple sampling spear

The extraction of primary or incremental cocoa bean samples, from jute bags, is carried out using a simple sampling spear to obtain a sample which is representative of the cocoa in the bag, micro-lot or lot. Sampling spears are made from aluminium or aluminium alloys and are within the parameters at Figure A.1.



Parameter	Measurement
Length	60 cm
Diameter (inside)	2.8 cm – 3.0 cm
Diameter (outside)	3.0 cm-3.2 cm
Thickness	2 mm thick
Weight	Approximately 300 – 325 g
Material	Aluminium, stainless steel or any inert food safe material
Angle of spear	Approximately 20°

Figure A.1 — Example of a simple sampling spear

A.2 Sampling scoop and containers

Sampling scoops (A.2) are used to draw primary or incremental samples of cocoa beans from food safe plastic bags and hard-lidded containers. The buckets (A.3) are used to store the cocoa beans and provide segregation from the sampled bags, microlots or lots, prior to coning and quartering.

Figure A.2 — Examples of a food safe sampling scoops

Figure A.3 — Examples of food safe sampling buckets

Figure A. 4 — Examples of food grade, hard lidded-containers

Annex B
(informative)

Guidance on sampling

B.1 General guidelines

B.1.1 Randomisation

Ensure that the sampling process is randomised to minimize bias. Randomly select containers or bags from different parts of the lot according to the sampling frequency to obtain a representative sample;

B.1.2 Sample size

Determine an appropriate number and size of reference samples needed based on the total quantity of cocoa beans available and what is needed for further laboratory testing and any regulatory agency as well as the amount of tests to be carried out.

B.1.3 Sampling tools

Use suitable tools for sampling, such as probes, spears or scoops, to collect samples from different depths and locations within each bag or hard lidded-container. The tools should be clean and free from any contaminants that could affect the sample integrity.

B.1.4 Composite sampling

If the cocoa beans in a hard lidded-container are expected to be uniform, consider taking a composite sample. Take sub-samples from different parts of the hard-lidded container or bag, mix them thoroughly, and then divide the composite sample into reference samples for further analysis.

B.1.5 Segregation

If the cocoa beans are not expected to be uniform within a hard lidded-container or bag, consider segregating the lot into different categories based on visible differences (e.g., size, colour, origin (microlots)). Sample each category separately to capture the variations within the lot.

B.1.6 Sampling depth

When sampling cocoa beans, ensure that the sample is collected from different depths within the container, ideally top, middle and bottom. This facilitates capture of any variations that may exist due to settling or segregation.

B.1.7 Sample handling

Handle the samples with care to prevent contamination or moisture absorption. Store the samples in clean, airtight containers, clearly labelled with relevant information such as lot number, sampling date, and location.

B.1.8 Documentation

Maintain detailed records of the sampling process, including the number of bags or hard lidded-containers sampled, the sampling method used, and any observations made during the process. These records can be useful for traceability and quality control purposes.

B.1.9 Laboratory analysis

Send the collected reference samples to a reputable laboratory for analyses, including tests for moisture content, bean size distribution, quality parameters, and any other relevant tests based on the specific requirements.

B.2 Primary sampling of containers

Primary sampling of beans from non-jute fibre bags and other hard lidded-container types should be as follows:

a) non-jute fibre bags and other hard lidded-containers, with the cocoa beans, are weighed and weights recorded. The average weight of the cocoa beans should not be more than 20 kg; and

b) containers are opened and a minimum of 500 g beans per container are scooped out as primary or incremental samples (see Annex A.2 and A.3 for examples of tools to use).

Note The use of spears and probes results in irreparable damage to the bag type containers.

B.3 Primary sampling of Vegetable Oil Treated (VOT) jute fibre bags

B.3.1 The maximum weight of beans in food safe VOT jute fibre bags should not be more than 65 kg.

NOTE The maximum weight of the beans in the container can often be dependent on the requirement of the buyer.

B.3.2 Where there is no sampling spear, first empty the entire bag or at least half the bag on a clean, flat surface and then take the primary samples, using a scoop.

B.3.3 Where there is a sampling spear, the spear is inserted near the top, the middle and near the bottom of the bag and the primary samples removed.

Annex C
(informative)

Additional information on microlots

C.1 General

Cocoa bean microlots refer to a small batch of cocoa beans produced from a specific area or farm that exhibits unique characteristics and flavours. Microlots are typically isolated and processed separately from larger volumes of cocoa beans to maintain their distinct qualities. The term "microlot" emphasizes the focus on quality and traceability, allowing chocolate makers and consumers to appreciate the specific terroir, farming practices, and flavour nuances associated with those particular beans.

C.2 Applicability

C.2.1 The concept of microlots is commonly used in the specialty “bean-to-bar” chocolate industry, where there is an emphasis on highlighting the diverse flavours and characteristics of cocoa beans from different origins. Microlots are often associated with ultra-niche marketing of single-origin chocolate, where the beans are sourced from a particular region or farm and used exclusively in the production of a specific chocolate bar or product.

C.2.2 By keeping microlot quantities small, cocoa producers and chocolate makers can maintain a high level of quality control, traceability, and consistency. Microlots are often harvested and processed at peak ripeness, meticulously fermented and dried, and carefully sorted to ensure only the best beans make it into the final product. This attention to detail and craftsmanship contributes to the unique and exceptional flavours that can be found in microlot chocolates.

Annex D
(informative)

Sample retention

D.1 General

D.1.1 In cocoa bean quality evaluations, sample retention refers to the practice of keeping a representative portion of the reference sample of cocoa beans for future reference or quality verification. This retained reference sample is kept in case additional testing or re-evaluation is required to confirm the preliminary findings of quality evaluations, in cases where:

a) the quality of beans are questioned; or

b) disagreements or inconsistencies necessitate arbitration.

Typically, reference samples are supplied to the buyer or an independent assessor or both, with the seller keeping an equal amount.

D.1.2 By retaining samples, stakeholders in the cocoa industry, including producers, traders, and processors, can ensure transparency and accountability in quality assessments. It provides a means of traceability and allows for independent verification if necessary. Moreover, sample retention enables long-term analysis of cocoa quality trends, which can be valuable for research, quality improvement efforts, and the development of industry-wide standards. There should be a policy for retaining samples wherever this function is carried out.

D.2 Storage

The retained samples are typically stored in a controlled environment that minimizes degradation and maintains the quality over time. This includes the use of sealed containers or bags, and keeping them in a cool, dry place.

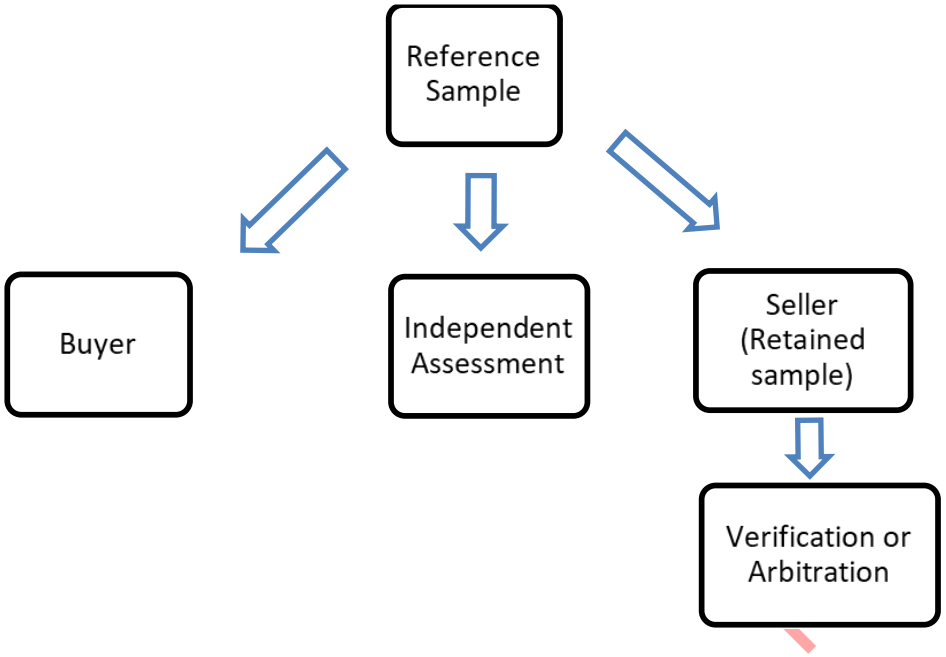


Figure D.1 — *Flow diagram for retaining samples*

Annex E
(informative)

Process of coning and quartering

Coning and quartering are carried out to obtain samples that are representative of a lot. Figures E.1 to E.4 illustrate the process of coning and quartering.

Figure E. 1: Coning and quartering of composite sample

Figure E. 2: Reducing the composite sample

Figure E.3: Coning and quartering to obtain reference samples

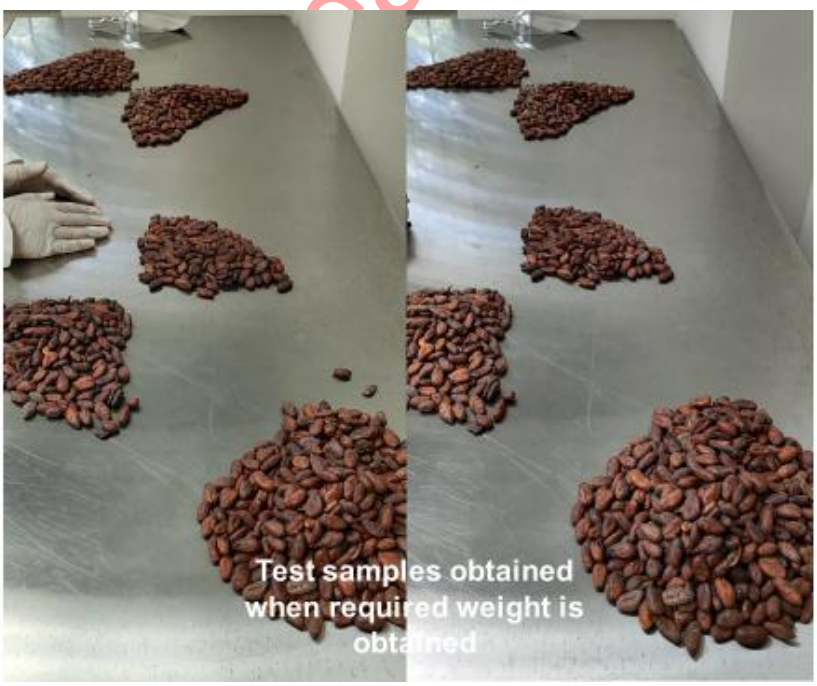


Figure E.4: Test samples obtained from reference samples

Note Figure E.1, E.2, E.3 and E.4 were sourced from the Cocoa Research Centre - The University of the West Indies, St Augustine.

Annex F
(informative)

Examples of sampling report for cocoa beans in containers

Figure F.1 shows a local example of a sampling report for cocoa beans in containers. Date stamped photos should be inserted as part of the sampling documentation process.

Cocoa bean sampling records						
Type	(Individual farm, cooperative etc.)					
Contact Name						
Address						
Contact Information	**Phone:**					
	Email:					
Location	Town					
	Region					
	Country					
	GPS Coordinates (optional)					
Comments						
		Samples collected from container (tick as sampled and insert more columns as needed)				
Date	**Container Number**	**Top**	**Middle**	**Bottom**	**Comments**	**Sampler Initials**

Total no. of containers sampled						
Total weight of beans retained and apportioned as reference samples						
Conditions						
Remarks						
Sampler signature:					**Date**	
Checked and verified by					**Date**	

Figure F.1 — Example of a sample report

END OF DOCUMENT

CARICOM REGIONAL ORGANISATION FOR STANDARDS AND QUALITY

The CARICOM Regional Organisation for Standards and Quality (CROSQ) was created as an Inter-Governmental Organisation by the signing of an agreement among fourteen Member States of the Caribbean Community (CARICOM). CROSQ is the regional centre for promoting efficiency and competitive production in goods and services, through the process of standardization and the verification of quality. It is the successor to the Caribbean Common Market Standards Council (CCMSC), and supports the CARICOM mandate in the expansion of intra-regional and extra-regional trade in goods and services.

CROSQ is mandated to represent the interest of the region in international and hemispheric standards work, to promote the harmonization of metrology systems and standards, and to increase the pace of development of regional standards for the sustainable production of goods and services in the CARICOM Single Market and Economy (CSME), and the enhancement of social and economic development.

CROSQ VISION:

The premier CARICOM organisation for the development and promotion of an Internationally Recognised Regional Quality Infrastructure; and for international and regional harmonized CARICOM Metrology, Standards, Inspection, Testing and Quality Infrastructure

CROSQ MISSION:

The promotion and development of standards and standards related activities to facilitate international competitiveness and the sustainable production of goods and services within the CARICOM Single Market and Economy (CSME) for the enhancement of social and economic development.

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