



Feedback Report

CACAO BEAN SAMPLE CODE 000/23

Submitted for the 2023 Edition of the
Cacao of Excellence Awards

08 February, 2024

DATE OF REPORT

Origin X

ORIGIN

Producer X

PRODUCER

Region X

REGION



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Background

Cacao of Excellence is a neutral global platform that brings together the public and private sector to discover, promote, and reward cacao producers across origins for their superior quality and flavour diverse cacao. Since 2009, the platform has held the prestigious global Cacao of Excellence Awards, celebrating the expertise of producers and showcasing the diversity of exceptional cacao worldwide. Cacao of Excellence's vision is to drive the expansion of superior quality cacao, improving the livelihoods of cacao producers, and safeguarding cacao biodiversity for the benefit of farmers, consumers and the planet.

Cacao of Excellence is led by the Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT), part of the CGIAR global partnership uniting international organisations engaged in agricultural innovation. Cacao of Excellence is organised in partnership with the International Cocoa Organization (ICCO), Guittard Chocolate, Seguine Cacao, Cocoa and Chocolate Advisors, the USDA project Maximising Opportunities for Cacao and Coffee in Latin America (MOCCA), Barry Callebaut, Cacao Barry, the Italian Ministry of Foreign Affairs and International Cooperation, Salon du Chocolat, Puratos-Belcolade, the Cocoa Research Centre of the University of the West Indies (CRC/UWI), Valrhona, Regis Bouet, Fairtrade International, TreeGether, NGSER, Universidad Nacional Agraria La Molina Peru, the Cocoa Research Institute of Ghana (CRIG), the Zurich University of Applied Sciences (ZHAW), CATIE, Tcho, Cocotown, Herencia, LADY AGRI, Organizzazione internazionale italo-latino americana (IILA), OFI, Universidad del Valle de Guatemala, Chocolatier CAS, Cacao Crudo, Binder, fkv, Eurochocolate and the Umbria Chamber of Commerce.

Cocoa producers of all origins were invited to submit 5kg samples of well-prepared, fermented and dried cacao beans representing the genetic and geographic origins of their regions, through their respective National Organization Committees (NOCs) by 31 January 2023, following the guidelines for participation. For this 2023 Edition of the Cacao of Excellence Awards we are pleased to note that all samples submitted were processed directly in the new Cacao of Excellence Laboratory in Rome, Italy from bean to bar! In addition, during the processing and evaluation of samples, the new Guide for the Assessment of Cacao Quality and Flavour, published September 2023, is a valuable reference as noted in the Annex.

For the 2023 Edition, **52 cacao producing origins** participated. All **222 cacao bean samples received** were assigned a blind code on reception and evaluated for physical and whole and cut bean sensory qualities. Of these, **218 accepted cacao bean samples** were processed into cacao mass and evaluated blindly by the **11 members of the [Cacao of Excellence Technical Committee](#)**, a panel of international sensory evaluation experts. Based on the cacao mass evaluation, the **Best 50 superior quality cacao samples were selected**, representing the four cacao-producing regions. These samples were subsequently processed into a dark chocolate using an identical recipe for each, tempered and moulded. These Best 50 chocolate samples were then evaluated blindly by a panel of **32 cacao and chocolate professionals**. In all, **18 Gold, 16 Silver, and 18 Bronze** award winners were announced and celebrated 08 February, 2024 at the 2023 Cacao of Excellence Awards Ceremony held in Amsterdam, Netherlands at the Chococoa Trade Fair and Chocolate Makers' Forum during Amsterdam Cocoa Week.

Purpose

This report provides feedback to all participating cacao bean producers about the quality of the sample submitted. Providing individual feedback is a critical part of the Cacao of Excellence Awards as it provides producers with a unique opportunity to understand in detail the results of the evaluation of their sample and improve quality for future production.



I. Producer information

A. Producer - Contact details

Official producer name
Type of producer Individual producer of the sample
Contact person
Phone of contact person
E-mail of contact person
Location of the farm
Address
Town
District
Region
Country
GPS coordinates

B. Sender of the sample to Cacao of Excellence – Contact details

Name
Organisation
Phone
E-mail
Cacao of Excellence R&D Laboratory, Rome, Italy
Date of reception 01/02/2023

C. National Organization Committee (NOC)

Contact details of the National Organization Committee

II. Information on the cacao bean sample as provided by the producer

A. Description of the farm and agricultural practices

Size of the farm (ha)	1.0
Plot(s) number on the farm represented by the sample (if relevant)	Plot 1
Productivity (Kg dried beans/ha/year)	100
Type of farming practices	Agroforestry system



B. Genetic origin and sample type

Weight of sample sent (g)	5000
Dominating genetic origin	Forastero
Local name of cacao variety	Local Forastero
Type of sample (commercial / experimental)	Commercial
If commercial, estimated production volume in coming years (tonnes/year)	1.0



C. Fermentation method

Date	01/11/2022
Duration (days)	7
Traditional method used	Yes
Container type	Wooden boxes
First turn	3 days after start of fermentation
Total number of turns	3
Total weight of fermentation mass (kg)	50

D. Drying method

Date	01/12/2022
Duration (days)	7
Traditional method(s) used	Yes
Specific type	Direct: Wood
Thickness of the drying bean layer (cm)	3.0

E. Storage conditions

Temperature (°C)	20
Relative Humidity (%)	50
Pest control during storage	Yes





III. Physical quality evaluation results

A. Whole unroasted beans

External bean aroma	<i>Description of aroma of whole beans</i>	
External bean appearance	<i>Description of appearance of whole beans</i>	
Bean count (/100g) – see Annex 1 Note 1	100	(Standard Beans)
Average weight per bean (g)	1.0	
Cleaning loss (%) – see Annex 1 Note 2	1.0	
Moisture content (%) – see Annex 1 Note 3	7.0	(Optimal Moisture)

B. Cut beans – see Annex 1 Note 4

Link to cut test photos	<i>SharePoint link provided by Cacao of Excellence</i>				
Cut test aroma	<i>Description of cut beans aroma</i>				
Cut test appearance	<i>Description of cut beans appearance</i>				
% purple / violet	15	% light brown	15	% mouldy	0
% partly purple	15	% medium brown	25	% slaty	0
% white / ivory / yellowish	10	% dark brown	20	% internally infested	0

C. Internal bean fissuring – see Annex 1 Note 5

Fissuring grade 1 (%)	25	Fissuring grade 3 (%)	25
Fissuring grade 2 (%)	25	Fissuring grade 4 (%)	25

D. Roasting conditions for processing into cacao mass – see Annex 1 Note 6 and Note 7

Temperature (°C)	120
Time (minutes)	25
Nibs' yield (%) – see Annex 1 Note 8	75.0

E. Cacao mass characteristics

Cacao butter content in cacao mass (%) – see Annex 1 Note 9	50.0	+/- 0.5
Cacao mass fineness (µm)	15	

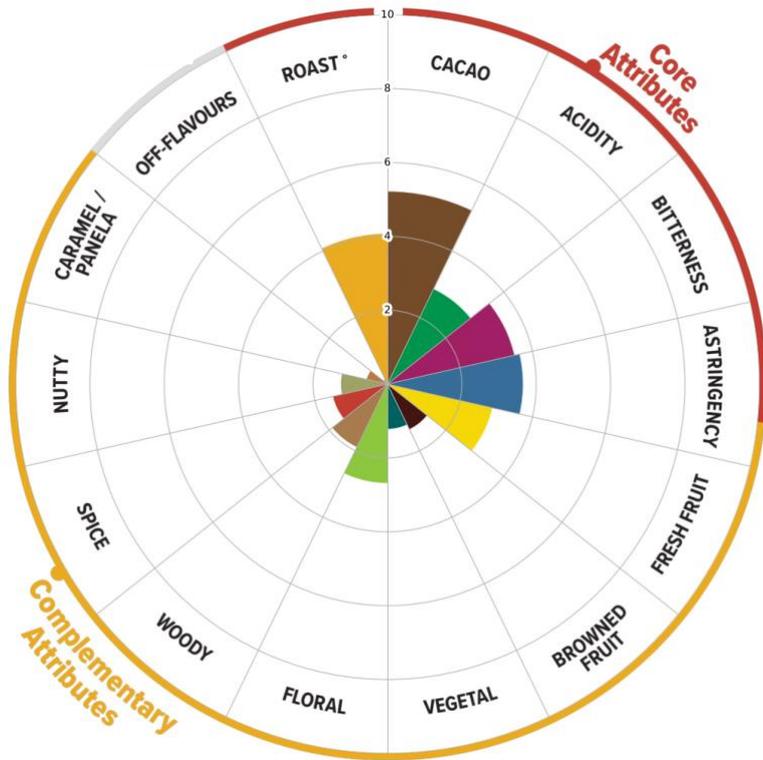


IV. Cacao mass flavour sensory evaluation

For information on the cacao mass evaluation process see Annex 1 Note 10

A. Flavour attribute intensity (0-10) – see Annex 2

Cacao	5.2
Acidity	2.9
Bitterness	3.5
Astringency	3.6
Fresh Fruit	2.9
Browned Fruit	1.4
Vegetal	1.2
Floral	2.7
Woody	1.9
Spice	1.5
Nutty	1.2
Caramel / panela	0.6
Roast Degree	4.1
Off-flavours	0.1
Global Quality	8.3



B. Off-flavours

No significant off-flavours perceived.

C. Sub-attributes

Attribute	Key sub-attributes perceived
Attribute1	Sub-attribute1
Attribute2	Sub-attribute2
Attribute3	Sub-attribute3
Attribute4	Sub-attribute4

D. Comments on flavour

Comments on cacao mass from the members of the Technical Committee

E. Comments on post-harvest

Comments / recommendations from the members of the Technical Committee



V. Chocolate flavour sensory evaluation

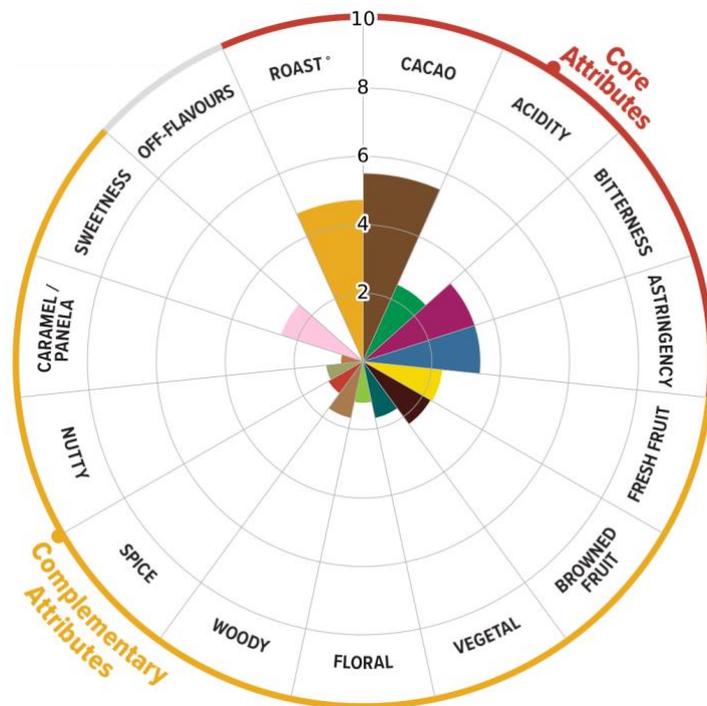
For more information on the chocolate evaluation process see Annex 1 Note 11

A. Chocolate recipe and characteristics

% Cacao nibs	63
% Cacao butter, deodorised	7
% Sugar	30
Total % Cacao	70
Ratio of cacao mass (nibs) to sugar	2.1
Chocolate fineness (µm, +/- 1)	16

B. Flavour attribute intensity (0-10) – see Annex 2

Cacao	5.3
Acidity	2.2
Bitterness	3.6
Astringency	3.6
Fresh Fruit	2.2
Browned Fruit	2.2
Vegetal	1.8
Floral	1.4
Woody	1.8
Spice	1.0
Nutty	0.9
Caramel / panela	0.5
Sweetness	2.2
Roast Degree	4.6
Off-flavours	0.0
Global Quality	8.5



C. Off-flavours

No off-flavours perceived.

D. Key sub-attributes

Attribute	Key sub-attributes perceived
Attribute1	Sub-attribute1
Attribute2	Sub-attribute2
Attribute3	Sub-attribute3
Attribute4	Sub-attribute4

E. Chocolate flavour profile description

Detailed description of the chocolate flavour profile

CoEx Sample Code: 000/23
Producer:

Origin:
Region:



VI. Cacao of Excellence 2023 Award



This cacao bean sample,
CoEx Code 000/23
received the award:
Cacao of Excellence Gold 2023
during the Awards Ceremony,
on 08 February 2024.

For further information about the Award Ceremony on 08 February 2024,
consult the website: cacaoofexcellence.org



Annex 1. Notes

- 1. Bean size** classifications according to **bean count** ranges as defined by ISO 2451:2017: Standard beans (<100), medium beans (101-110), small beans (111-120), and very small beans (>120).
- 2. Cleaning loss** is the total loss in the bean sample mass from the removal of small (sieving) and big (such as stones, screws, flat beans, bean clusters) particles. Detailed procedure on determining the cleaning loss can be found in the Guide for the Assessment of Cacao Quality and Flavour, Section 8.4.1 "Determining the cleaning loss," which is available on the website: [Cacao of Excellence Cacao Guide](#).
- 3. Moisture** was measured using the Dickey-John mini-GAC plus moisture meter, and the 121003 Cacao Bean (6-23%) calibration. The optimal range (medium level) of moisture content is 6.5-7.5%; below 6% (low level), bean breakage is high, and above 8% (high level), the risk of mould growth is high (Sukha DA, 2017). Detailed procedure on determining the moisture content can be found in the Guide for the Assessment of Cacao Quality and Flavour, Chapter 7 "Determination of moisture content," which is available on the website: [Cacao of Excellence Cacao Guide](#).
- 4. Cut test** is a method used to assess bean quality based on visual observations (colour, internal fissuring, and presence of defects) and odour (aroma of cut beans). Judgement is required in interpreting cut tests: it is incorrect to assume that a cut test below a minimum of "X%" fully fermented beans (brown beans) indicates the fermentation is not done correctly. The cut test criterion is first established by observing the flavour profile, then identifying the cut profile associated with the desired resulting flavour of the beans. It is an indicative reference only and not a predictive criterion. The cacao cut test chart (Annex 3) was used as reference for evaluating the cut beans. A Magra 14 guillotine cutter from Tesserba was used for the cut tests. Detailed procedure on how to carry the cut test can be found in the Guide for the Assessment of Cacao Quality and Flavour, Chapter 9 "Physical evaluation of cut cacao beans," which is available on the website: [Cacao of Excellence Cacao Guide](#).
- 5. Internal bean fissuring** is a published alternative view of the fermentation of the beans. Publications have been in a series of US patents linking fissuring to cacao flavanol content. Internal Bean Fissuring US Patent 6582747B2, June 24, 2003 is presented in Annex 3.
- 6. Roasting** was performed in a Binder FD56 forced draft convection oven, equilibrated to target temperature. Beans (800g) placed on two wire mesh-lined trays (0.6-cm mesh, 85%+ open area) were roasted one layer deep following the procedure described in the Guide for the Assessment of Cacao Quality and Flavour, Chapter 11 "Roasting cacao beans," which is available on the website: [Cacao of Excellence Cacao Guide](#).
- 7. Roasting conditions:** The basic roasting conditions selected were based on both the information provided by the sample submitter on the genetic background, combined with information from the cut test and physical quality analysis (appearance, fissuring, and aroma of the cut beans, moisture content and bean size). Information on bean moisture content and bean count were used to adjust the basic roasting conditions initially identified. Detailed procedure on how to select the roasting conditions can be found in the Guide for the Assessment of Cacao Quality and Flavour, Section 11.4.1 "Selecting the roasting conditions," which is available on the website: [Cacao of Excellence Cacao Guide](#).
- 8. Yield** measures the conversion of raw, cleaned beans to picked over, shell-free nibs. Following roasting, beans were cracked and winnowed. Following winnowing, nibs were hand picked to remove the last of the shell, both free shell and stuck (to a piece of nib) shell. This yields a very pure stream of nibs for maximum flavour expression. The yield is the percentage of nib weight / bean weight x 100.
- 9. Cacao butter content in cacao mass** was measured using Modified AOAC 963.15: without hydrolysis and using hexane instead of ether.
- 10. Cacao mass sensory evaluation** was carried out by the 11 members of the Cacao of Excellence Technical Committee on all accepted bean samples. The Glossary of Terms for Cacao Bean Flavour Evaluation as Cacao Mass and Chocolate (Annex 2), forms and guidelines are available here: cacaofexcellence.org/info-resources. The Cacao of Excellence Technical Committee members information is available here: [Cacao of Excellence Technical Committee](#).
- 11. Chocolate sensory evaluation** was carried out by the Cacao of Excellence Technical Committee and a large panel of professionals on the best 50 cacao bean samples processed into chocolate. All resources used by this jury for their evaluations are available here: cacaofexcellence.org/info-resources.



Annex 2. Cacao of Excellence Glossary of Terms

Attribute intensity scale and meanings:

Intensity Meaning

0	Absent.
1	Just a trace and may not be found if tasted again.
2	Present in the sample but at low intensity.
3 to 5	Clearly characterising the sample.
6 to 8	Dominant characterisation of the sample.
9 to 10	Maximum. Strong intensity. Overpowers some other flavour notes in the sample.

The flavour attributes are divided into three groups:

- 1. Core attributes:** cacao, acidity, bitterness, astringency and roast degree expected to be present in every sample and scored.
- 2. Complementary attributes:** characteristics that may or may not be perceived in cacao samples.
- 3. Off-flavours:** resulting from defects that may or may not be perceived in cacao samples.

Descriptor	Description	Intensity level / Reference notes
Cacao	Typical flavour of roasted cacao beans that are well fermented, dried, free of defects.	0–2 Under-fermented cacao, ancient Criollos. 3–5 Appropriately fermented “Nacional” and Papua New Guinean lots. 6–8 Appropriately fermented cacao, some West African and some Dominican Republic Hispaniolan lots. 9–10 Some West African lots.
Acidity	<p>Total acidity is the sum of the following individual acidities. If the result is ≥ 10 it is rounded to 10 as the maximum:</p> <ul style="list-style-type: none"> • Fruit: citric or other fruit acids. • Acetic: vinegar (can be smelled in the sample). • Lactic: typically occurring in sour milk and yogurt • Mineral and butyric: harsh metallic tasting (mineral) and rancid butter (butyric). <p>Perception of acidity intensity is particularly dependent on the amount of sample in the mouth.</p>	0–2 Some well-prepared West African lots. 3–5 Some Ecuadorian, Peruvian and Central American lots. 6–8 Some Dominican Republic Hispaniola, Papua New Guinean and Malaysian lots.
Bitterness	<p>Basic taste, typically perceived in caffeine, coffee, kola nut, some beers and grapefruit.</p> <p>Perception of bitterness intensity is particularly dependent on the amount of sample in the mouth.</p>	1–2 Some ancient Criollos. 3–5 Well-prepared West African lots. 6–8 Severely under- and un-fermented cacao.



Descriptor	Description	Intensity level / Reference notes	
Astringency	<p>Astringency could be perceived in two ways:</p> <ul style="list-style-type: none"> • Sharp mouth-drying effect, sharp, perceived between tongue and palate and /or at the back of the front teeth and inside lips and gums – typical of raw nut skins and green banana skins. • Velvety sensation on the sides of mouth and tongue. Typical of tannins in some wines or beers. <p>Perception of astringency intensity is particularly dependent on the amount of sample in the mouth.</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">I N T E N S I T Y</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">T Y P E</p>	<p>1–2 Some ancient Criollos.</p> <p>3–5 Normal intensity for most cacao.</p> <p>6–8 -</p> <p>9–10 -</p>
			<p>Sharp-mouth drying Typical of under-fermented cacao.</p> <p>Velvety Typical of appropriately fermented “Nacional”.</p>
Fresh fruit	<p>Total fresh fruit is composed of the following sub-attributes:</p> <ul style="list-style-type: none"> • Berry: red or black currant, strawberry, raspberry, blackberry, acai berry. • Citrus: orange, lemon, lime, grapefruit or generic sensation of citrus-like fruit. • Dark: cherry, plum. • Yellow / orange / white flesh: apricot, peach, pear, banana. • Tropical: passion fruit, pineapple, mango or soursop. 		<p>0–2 Many West African lots.</p> <p>3–5 Some Central and South American, well fermented Asia and Pacific country lots.</p> <p>6–7 Madagascar, some Central and South American country lots, some Papua New Guinean lots.</p>
Browned fruit	<p>Total browned fruit is composed of the following sub-attributes:</p> <ul style="list-style-type: none"> • Dried: dried apricot, banana, yellow raisin, fig that has undergone an un sulphured drying process. • Browned: dark raisin, dates, prunes. • Over ripe: No longer fresh and severely over-ripe fruit, turning brown inside and outside, as a step towards over-fermentation. 		<p>0–2 Many West African lots.</p> <p>3–5 Fully fermented Indonesian and some Caribbean country lots.</p> <p>6–8 Some Papua New Guinean and some Caribbean country lots.</p>
Vegetal	<p>Total vegetal is composed of the following sub-attributes:</p> <ul style="list-style-type: none"> • Grassy / Green vegetal / herbal: <ul style="list-style-type: none"> » Grassy – freshly cut grass, young green leaves. » Green vegetal – crushed mature leaves. » Herbal – hay, straw or herbal / dried green, herbs like thyme and rosemary. • Earthy / mushroom / moss / woody: <ul style="list-style-type: none"> » Earthy – smell of dampness rising from soil after rain. » Mushroom – smell of fresh mushrooms. » Moss – damp moss often associated with earthiness. » Woody – leaves and wood on a forest floor. 		<p>0–2 West African lots.</p> <p>3–5 Appropriately fermented “Nacional” and some Caribbean country lots.</p> <p>6–8 Some Caribbean country lots and some Peruvian lots.</p>



Descriptor	Description	Intensity level / Reference notes	
Floral	<p>Total floral is composed of the following:</p> <ul style="list-style-type: none"> • Orange blossom: orange blossom flavour. • Flowers: jasmine, honeysuckle, rose, lilac, lilies, etc. 	0–2	West African lots.
		3–5	Appropriately fermented “Nacional” and some Caribbean country lots.
		6–8	Some Caribbean country lots and some Peruvian lots.
Woody	<p>Total woody is composed of the following sub-attributes:</p> <ul style="list-style-type: none"> • Light wood: freshly cut cacao wood, white pine wood, maple wood, ice-cream/popsicle wooden stick. • Dark wood: oak, walnut, teak, mahogany. • Resin: pitch of pine or other resinous wood. 	0–2	-
		3–5	Some “Nacional” and many West African lots.
Spice	<p>Total spice is composed of the following sub-attributes:</p> <ul style="list-style-type: none"> • Spices: dried coconut, nutmeg, cinnamon, cloves, cacao mass, tonka, vanilla, black pepper. • Tobacco: dried tobacco leaves. • Savoury/Umami: sodium glutamate, umami. 	0–2	In most origins.
		3–5	In some West African, Central and South American and Caribbean country lots.
Nutty	<p>Total nutty is composed of the following sub-attributes:</p> <ul style="list-style-type: none"> • Nutty – nut flesh: the edible kernel of a light roasted nut – hazelnut, macadamia, pecan, walnut, cashew, almond, Brazil nut • Nutty – nut skins: the flavour of lightly roasted nut skins – hazelnut, macadamia, pecan, walnut, cashew, almond, Brazil nut 	0–2	In most origins.
		3–5	Some Central and South American and Caribbean countries’ lots and ancient Criollos.
Caramel / Panela	Aromas reminiscent of caramel, brown sugar and panela (unrefined cane sugar)	0–2	In most origins
		3–5	Some Central and South American and Caribbean countries’ lots and ancient Criollos
Sweetness (only for chocolate)	Basic taste of white sugar solutions, typically perceived in foods like candies and desserts that contain sugar (or other sweeteners such as aspartame) and also naturally found in other foods like fruits.		



Descriptor	Description	Intensity level / Reference notes
Roast degree	A measure of the extent of the roasting the beans. Significant under or over roasting alters many of the attribute values.	2–3: Low roast 4–6: Medium roast 7: High roast 8–10: Levels of burnt/over-roasted
Off-flavours	<p>Total Off-Flavours is the sum of any unpleasant characters from the following. If the result is ≥ 10 it is rounded to 10 as the maximum:</p> <ul style="list-style-type: none"> • Dirty/dusty: not related to texture but to an off-flavour. • Musty: stale, damp, mildew, decaying. • Mouldy: characteristic of mould growth. • Meaty/animal/leather: <ul style="list-style-type: none"> » Meaty – cured meat, ham, rendered fat. » Animal – dirty animal / farmyard. » Leather – used old leather. • Over-fermented/rotten fruit: decomposing fruit. • Putrid/manure: <ul style="list-style-type: none"> » Putrid – wet decomposing vegetative matter. » Manure – farmyard animal manure. • Smoky: contamination from the smoke (any kind). • Other off-flavours: rancid, diesel, oil fumes, petroleum, tar, paint, tyres, chemicals, burnt, etc. 	0: Absent – clean, well fermented, dried and stored cacao beans. 1–2: Low intensity. 3+: Clearly characterizing the sample as a defect.
Global Quality	<p>The Global Quality score reflects the overall impression of the:</p> <ul style="list-style-type: none"> • expressed flavour potential • uniqueness of the sample • balance of flavour and cleanliness of the finish <p>It celebrates the expression of genetics and terroir diversity through the farmer's knowhow.</p>	Global Quality scores and meaning below





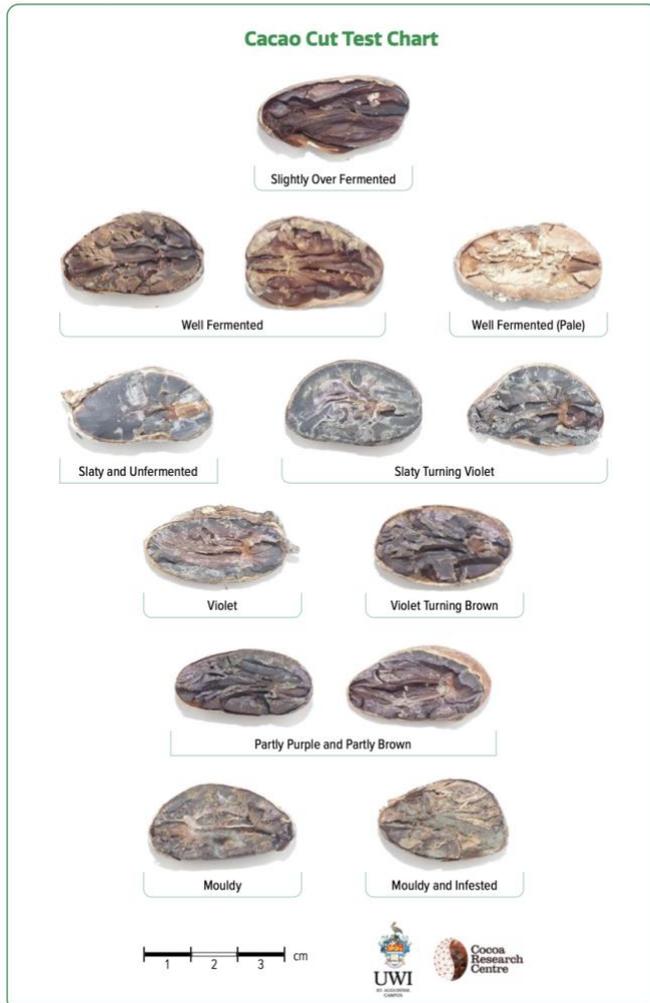
2B. Meaning of the global quality scores for the sensory evaluation of cacao beans processed into mass and chocolate (Cacao of Excellence 2023)

	Off-flavours	Core attributes	Complementary attributes	Notes
0	Serious off-flavours clearly characterizing the sample as defective	Masked by off-flavours	Masked by off-flavours	Be as specific as possible on the type of off-flavours as this is valuable feedback to the producers Depending on the type, number and intensity of off-flavours, 0 would be the worst case and 3 the least but still bad
1				
2				
3	In low intensity	Seriously unbalanced	Masked by off-flavours and unbalanced core attributes	
4				
5				
6	In low intensity or absent	Unbalanced	Partially masked by unbalanced core attributes	
7				
8				
9	Absence of any	Unbalanced	In low intensity, none outstanding, not in balance to core attributes	Overall plain flavour – mainly characterized by the core attributes and less by the complementary attributes
6				
7				
7	Absence of any	Balanced	One or more are outstanding but not in balance to core attributes	Overall plain flavour – mainly characterized by the core attributes and less by the complementary attributes
8				
9				
8	Absence of any	Well balanced with moderate base cacao flavour	One or more are outstanding, in balance to core attributes and to each other	Overall flavour presents some complexity
9				
10				
9	Absence of any	Well balanced, good base cacao flavour	Many outstanding, in balance to core attributes and to each other	Overall flavour presents a combination of complexity, uniqueness, harmony, brightness, clean finish
10				
10				
10	Absence of any	Well balanced, in low to moderate intensity, good base cacao flavour	Clearly recognizable, many outstanding, in balance to core attributes and to each other	Overall flavour presents a combination of complexity, uniqueness, harmony, brightness, clean finish The sample is of extraordinary quality, rarely seen
10				
10				

Annex 3. Cut Test References and Photos

3A. References

Cacao cut test chart (left) and cacao bean fissuring chart (right)



Reference: Sukha D & Rohsius C. 2004. Cocoa Cut Test Chart. Technical Guide. The University of Hamburg, Centre Klein Flottbek, The University of the West Indies, Cocoa Research Center, Hamburg and St. Augustine. 6 p.



Increasing degree of cacao bean fissuring from top left to bottom right (Biodiversity International, Archila, 2022).

CoEx Sample Code: 000/23
Producer:

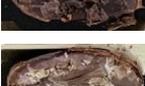
Origin:
Region:



3B. Overview of cut test



3C. Cut test photos of beans

	A-side	B-side	Results
1			Medium brown, Fissuring 3
2			Dark brown, Fissuring 3
3			Dark brown, Fissuring 4
4			Partly purple, Fissuring 2
5			Dark brown, Fissuring 4
6			Dark brown, Fissuring 4
7			Medium brown, Fissuring 4
8			Purple / violet, Fissuring 3
9			Medium brown, Fissuring 4
10			Dark brown, Fissuring 4
11			Dark brown, Fissuring 4
12			Medium brown, Fissuring 4
13			Dark brown, Fissuring 4
14			Light brown, Fissuring 2
15			Partly purple, Fissuring 3
16			Dark brown, Fissuring 4

17			Light brown, Fissuring 3
18			Light brown, Fissuring 2
19			Medium brown, Fissuring 3
20			Light brown, Fissuring 3
21			Dark brown, Fissuring 4
22			Medium brown, Fissuring 2
23			Purple / violet, Fissuring 3
24			Dark brown, Fissuring 4
25			Dark brown, Fissuring 4
26			Dark brown, Fissuring 4
27			Dark brown, Fissuring 4
28			Dark brown, Fissuring 4
29			Dark brown, Fissuring 4
30			Dark brown, Fissuring 4
31			Dark brown, Fissuring 4
32			Medium brown, Fissuring 3
33			Purple / violet, Fissuring 2
34			Medium brown, Fissuring 3

35			Purple / violet, Fissuring 2
36			Dark brown, Fissuring 4
37			Dark brown, Fissuring 4
38			Medium brown, Fissuring 4
39			Medium brown, Fissuring 4
40			Purple / violet, Fissuring 2
41			Medium brown, Fissuring 2
42			Purple / violet, Fissuring 2
43			Partly purple, Fissuring 4
44			Medium brown, Fissuring 4
45			Medium brown, Fissuring 3
46			Medium brown, Fissuring 4
47			Medium brown, Fissuring 3
48			Medium brown, Fissuring 4
49			Dark brown, Fissuring 4
50			Medium brown, Fissuring 4



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