Feedback Report (Template)

The data in this report is an example only

Cocoa Bean Sample Code 000/21

Submitted for the 2021 Edition of Cocoa of Excellence

Date of Report	16 December 2021
Origin	Origin X
Region	Region X
Producer	Producer X
Results	Best 50 – Cocoa of Excellence Gold 2021

Contact: Brigitte Laliberté, Director of Cocoa of Excellence, b.laliberte@cgiar.org

For more information: www.cocoaofexcellence.org

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Background

The Cocoa of Excellence Programme recognises cocoa quality and flavour diversity to improve farmers' livelihoods and drive sustainability of the cocoa supply chain since 2009. It offers an entry point for cocoa producers to participate in the Cocoa of Excellence Awards, a global competition recognizing the work of cocoa farmers and celebrating the diversity of cocoa flavours across the different origins of the world. Cocoa of Excellence also offers market opportunities and provides incentives to safeguard cocoa diversity for the benefit of the entire value chain, from the farming communities to the consumers.

Cocoa of Excellence is led by the Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT), part of the CGIAR and organized 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), the Italian Ministry of Foreign Affairs and International Cooperation, Salon du Chocolat / Event International, Barry Callebaut and Cacao Barry, Puratos-Becolade, the Cocoa Research Centre of the University of the West Indies (CRC/UWI), Valrhona, Regis Bouet, TreeGether, *Universidad Nacional Agraria La Molina Peru*, the Cocoa Research Institute of Ghana (CRIG), the Zurich University of Applied Sciences (ZHAW), CacaoCrudo, Herencia, CocoaTown, SGS, OLAM, Alexandre Chocolaterie, ClearChox, *Universidad del Valle de Guatemala* and the *Organizzazione internazionale italo-latino americana (IILA).*

Cocoa-producing origins were invited to submit samples of 5kg of well-prepared, fermented and dried cocoa beans representing the genetic and geographic origins of their regions, through their respective National Organizing Committees (NOCs) by 31 January 2021, following the guidelines for participation. For the 2021 Edition, **53 cocoa producing origins** participated. All **235 cocoa bean samples received** were assigned a blind code on reception and evaluated for physical and whole and cut bean sensory qualities. Of these, **234 accepted cocoa bean samples** were processed into cocoa liquor and evaluated blindly by the **11 members of the Cocoa of Excellence Technical Committee**, a panel of international experts in sensory evaluation - meet them here:

http://www.cocoaofexcellence.org/coex-programme-technical-committee.

From the liquor evaluation, the **Best 50 high quality cocoa samples selected**, representing the four cocoa-producing regions, were processed into a dark chocolate, tempered and moulded. These Best 50 samples were then evaluated blindly by the Technical Committee and a larger panel of **39 experts and professional chocolate makers**. During the Cocoa of Excellence 2021 Awards virtual ceremony on 16 December 2021, the following were celebrated: **16 Gold, 17 Silver, and 17 Bronze**.

Purpose

This report provides feedback to all participating cocoa bean producers about the quality of the sample submitted. Providing individual feedback is a critical part of Cocoa of Excellence - an opportunity to understand the results of the evaluation of the sample and continue to improve quality for future production.

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I. Information on the producer

A. Producer - Contact details	
Full name	
Type	Individual farmer, cooperative
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 Cocoa of Excellence – Contact details	
Name	
Organisation	
Phone	
E-mail	

C. National Organization Committee (NOC)
Contact details of the National Organization Committee

D. Shipment history of bean samples	
Date of reception – at Cocoa of Excellence c/o the Alliance of Bioversity International and CIAT, Rome, Italy	January 2021
Date of reception – at Seguine Cacao, Cocoa & Chocolate Advisors, California, USA for physical quality assessment and processing into liquor/chocolate	January 2021

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

A. Description of the farm and agricultural practices	
Size of the farm (ha)	1.0
Productivity (Kg dried beans/ha/year)	1000
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 cocoa 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 November 2020
Duration (days)	7
Method used	Traditional
Container type	Other
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 December 2020
Duration (days)	7
Method used	Direct sun drying
Specific type	Traditional
Thickness of the drying bean layer (cm)	3
E. Storage conditions	
Temperature (°C)	20
Relative Humidity (%)	50
Pest control during storage	No

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III. Physical quality evaluation results

A. Whole unroasted beans	
External bean aroma	*Description of aroma of whole beans*
External bean appearance	*Description of appearance of whole beans*
Bean count (/100g) – see Note 1	100 - Standard Beans
Average weight per bean (g)	1.0
Cleaning loss (%) – see Note 2	1.0
Moisture content (%) – see Note 3	7.0 - Optimal Moisture

B. Cut beans – see Note 4					
Link to cut test photos: *SharePoint link provided by Cocoa of Excellence*					
Cut test aroma		*Description of cut beans aroma*			
Cut test appearance		*Description of cut beans appearance*			
% purple / violet	20	**% light brown**	20	**% mouldy**	0
% partly purple	20	**% medium brown**	20	**% slaty**	0
		% dark brown	20	**% internally infested**	0

C. Internal bean fissuring – see Note 5	
Fissuring grade 1 (%)	25
Fissuring grade 2 (%)	25
Fissuring grade 3 (%)	25
Fissuring grade 4 (%)	25
D. Roasting conditions for processing into liquor – see Note 6 and Note 7	
Temperature (°C)	120
Time (minutes)	25
Nibs' yield (%) – see Note 8	75
E. Liquor characteristics	
Cocoa butter content in liquor (%) – see Note 9	50
Liquor fineness (µm)	15

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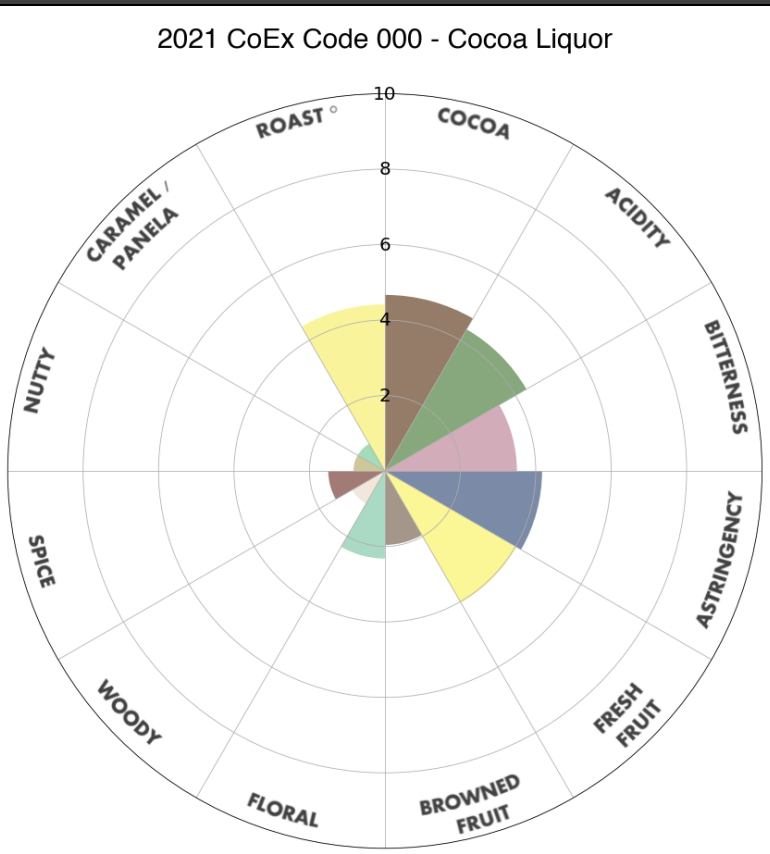
IV. Cocoa liquor flavour sensory evaluation

For information on the liquor evaluation process see Note 10

A. Attribute flavour intensity (0-10) – see Annex 2

Cocoa	4.7
Acidity	4.3
Bitterness	3.5
Astringency	4.2
Fresh Fruit	4.0
Browned Fruit	2.0
Floral	2.3
Woody	1.0
Spice	1.5
Nutty	0.8
Caramel / panela	0.8
Roast Degree	3.9
Off-flavours	0.0
Global Quality	**8.3**



B. Off-flavours

No 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 liquor from the members of the Technical Committee

E. Comments on post-harvest

Comments / recommendations from the members of the Technical Committee

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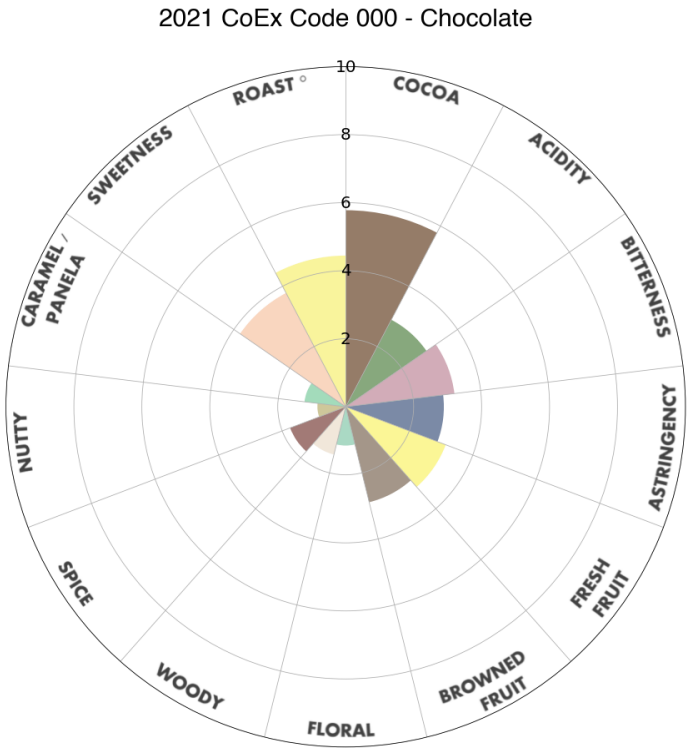
V. Chocolate flavour sensory evaluation

For more information on the chocolate evaluation process see Note 11

A. Chocolate recipe and characteristics	
% Cocoa nibs	61.00
% Cocoa butter, deodorised	5.00
% Sugar (sugar cane)	33.65
% Soya lecithin	0.35
Ratio of cocoa mass (nibs) to sugar	1.81
Chocolate fineness (µm)	14 – 18

B. Attribute flavour intensity (0-10) – see Annex 2

Cocoa	5.8
Acidity	2.9
Bitterness	3.2
Astringency	2.9
Fresh Fruit	3.1
Browned Fruit	2.9
Floral	1.1
Woody	1.4
Spice	1.8
Nutty	0.8
Caramel / panela	1.2
Sweetness	3.8
Roast Degree	4.4
Off-flavours	0.0
Global Quality	**8.6**



C. Off-flavours

No significant off-flavours perceived.

D. Key sub-attributes

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

E. Chocolate flavour profile description

Detailed description of the chocolate flavour profile

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VI. Cocoa of Excellence 2021 Award

This cocoa bean sample,

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received the award:

Cocoa of Excellence Gold 2021

during the virtual ceremony,

on 16 December 2021.

For further information about the virtual celebrations on 16 December 2021, consult the website:

www.cocoaofexcellence.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 International Standards for the Assessment of Cocoa Quality and Flavour – Protocol for Measuring Cleaning Loss and Cocoa Bean Count, which is available in the website, www.cocoaqualitystandards.org.
3. **Moisture** was measured using the Dickey-John mini-GAC plus, 121003 Cocoa Bean (6-23%) calibration. As mentioned in "Elements of harmonized international standards for cocoa quality and flavour assessment", 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 International Standards for the Assessment of Cocoa Quality and Flavour – Protocol for Measuring Moisture Content of Cocoa Beans, which is available on the website, www.cocoaqualitystandards.org.
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: the notion that a cut test must be "X%" or the fermentation is not done correctly is incorrect. 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 cocoa cut test chart (Annex 3) was used as reference for evaluating the cut beans. A Magra 14 guillotine cutter from Teserba was used for the cut tests. Detailed procedure on how to carry the cut test can be found in the International Standards for the Assessment of Cocoa Quality and Flavour – Protocol for External Analysis and Cut Test for Cocoa Beans, which is available in the website, www.cocoaqualitystandards.org.
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 cocoa 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 (480g) placed on a wire mesh-lined tray (0.6-cm mesh, 85%+ open area) were roasted one layer deep following the procedure described in the International Standards for the Assessment of Cocoa Quality and Flavour – Protocol for Roasting Cocoa Beans, available here: www.cocoaqualitystandards.org.
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.
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 handpicked 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. **Cocoa butter content in liquor** was measured using Modified AOAC 963.15: without hydrolysis, and using hexane instead of ether.
10. **Cocoa liquor sensory evaluation** was carried out by the 11 members of the Cocoa of Excellence Technical Committee on all accepted bean samples. The Glossary of Terms for Cocoa Bean Flavour Evaluation as Liquor and Chocolate (Annex 2), forms and guidelines are available here: www.cocoaofexcellence.org/info-and-resources. The Cocoa of Excellence Technical Committee members information is available here: http://www.cocoaofexcellence.org/coex-programme-technical-committee.
11. **Chocolate sensory evaluation** was carried out by the Cocoa of Excellence Technical Committee and a panel of 40 professionals on the best 50 cocoa bean samples processed into chocolate. The Glossary of Terms for Cocoa Bean Flavour Evaluation as Liquor and Chocolate (Annex 2), forms and guidelines are available here: www.cocoaofexcellence.org/info-and-resources.

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Annex 2. Cocoa of Excellence Glossary of Terms

Cocoa of Excellence
Glossary of Terms for Cocoa Bean Flavour Evaluation as Liquor and Chocolate

29 August 2021

CITATION: Cocoa of Excellence Technical Committee (2021). *Cocoa of Excellence Glossary of Terms for Cocoa Bean Flavour Evaluation as Liquor and Chocolate*. Bioversity International, Rome, August 2021.

Attribute Intensity Scale	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 characterizing the sample
6 to 8	Dominant characterization of the sample
9 to 10	Maximum. Strong intensity. Overpowers some other flavour notes in the sample

NOTES on examples of origin typical of intensity level

- These examples are for illustrative purposes only and are not meant to be exclusive of any origins/types.
- Specific lots of individual origins can differ dramatically from these frequently encountered values.
- Currently available, widely traded and traditionally known origins and may be reviewed in future editions.

Descriptor	Description	Intensity level References notes	
Cocoa	Typical flavour of roasted cocoa beans that are well fermented, dried, free of defects.	0 – 2	Under-fermented cocoa, ancient Criollos
		3 – 5	Appropriately fermented "Nacional" and Papua New Guinean lots
		6 – 8	Appropriately fermented cocoa, some West African and some Dominican Republic Hispaniolan lots
		9 –10	Some West African lots
Acidity	**Total acidity** is the sum of the following individual acidities: • **Fruit:** citric or other fruit acids • **Acetic:** vinegar (can be smelled it in the sample) • **Lactic:** typically occurring in sour milk and yogurt • **Mineral and Butyric:** harsh metallic tasting (mineral) and rancid butter (butyric) Perception of acidity intensity is particularly dependent on the amount of sample in the mouth.	0 – 2	Some well-prepared West African lots
		3 – 5	Some Ecuadorian, Peruvian and Central American lots
		6 – 8	Some Dominican Republic Hispaniolan, Papua New Guinean and Malaysian lots

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Descriptor	Description	Intensity level References notes		
Bitterness	Basic taste, typically perceived in caffeine, coffee, kola nut, some beers and grapefruit. Perception of bitterness intensity is particularly dependent on the amount of sample in the mouth.	1 – 2		Some ancient Criollos
		3 – 5		Well-prepared West African lots
		6 – 8		Severely under- and un-fermented cocoa
Astringency	Astringency could be perceived in two ways: • 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. Perception of astringency intensity is particularly dependent on the amount of sample in the mouth.	Intensity	1 – 2	Some ancient Criollos
			3 – 5	Normal intensity for most cocoa
			6 – 8	
			9 – 10	
		Type	Sharp mouth-drying	Typical of under-fermented cacao
			Velvety	Typical of appropriately fermented "Nacional"
Fresh Fruit	**Total Fresh Fruit** is composed of the following sub-attributes: • **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	0 – 2		Many West African lots
		3 – 5		Some Central and South American, well fermented Asia and Pacific country lots
		6 – 7		Madagascar, some Central and South American country lots, some Papua New Guinean lots
Browned Fruit	**Total Browned Fruit** is composed of the following sub-attributes: • **Dried:** dried apricot, banana, yellow raisin, fig that has undergone an un sulphured drying process • **Brown:** dark raisin, dates, prune • **Over ripe:** No longer fresh and severely over-ripe fruit, turning brown inside and outside, as a step towards over-fermentation.	0 – 2		Many West African lots
		3 – 5		Fully fermented Indonesian and some Caribbean country lots
		6 – 8		Some Papua New Guinean and some Caribbean country lots

Floral	**Total Floral** is composed of the following sub-attributes:
	• **Grassy / Green vegetal / Herbal:**
	  o Grassy – freshly cut grass, young green leaves
	  o Green vegetal – crushed mature leaves
	  o Herbal – hay, straw or herbal / dried green, herbs like thyme and rosemary
	• **Earthy / Mushroom / Moss / Woodsy:**
		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

Descriptor	Description	Intensity level References notes	
	○ Earthy – smell of dampness rising from soil after rain ○ Mushroom – smell of fresh mushrooms ○ Moss – damp moss often associated with earthiness ○ Woodsy – leaves and wood on a forest floor • **Orange blossom:** orange blossom flavour • **Flowers:** jasmine, honeysuckle, rose, lilac, lilies, etc.		
Woody	**Total Woody** is composed of the following sub-attributes: • **Light wood:** freshly cut cocoa 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	**Total Spice** is composed of the following sub-attributes: • **Spices:** dried coconut, nutmeg, cinnamon, cloves, liquorice, 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	**Total Nutty** is composed of the following sub-attributes: • **Nut flesh:** the edible kernel of a light roasted nut – hazelnut, macadamia, pecan, walnut, cashew, almond, brazil nut • **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) also naturally found in other foods like fruits.		
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

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Descriptor	Description	Intensity level References notes	

Off-Flavours	**Total Off-Flavours** is composed of any unpleasant characters from the following:
	• **Dirty / Dusty:** not related to texture but to an off-flavour
	• **Musty**: stale, damp, mildew, decaying
	• **Mouldy**: characteristic of mould growth
	• **Meaty / Animal / Leather**:
	  o Meaty – cured meat, ham, rendered fat
	  o Animal – dirty animal / farmyard
	  o Leather – used old leather
	• **Over-fermented / Rotten fruit:** decomposing fruit
	• **Putrid / Manure:**
	  o Putrid – wet decomposing vegetative matter
	  o 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 cocoa beans

		1-2	Low intensity
		3 +	Clearly characterizing the sample as a defect
Global Quality	The **Global Quality** score reflects the overall impression of the: • expressed flavour potential • uniqueness of the sample • balance of flavour and cleanliness of the finish It celebrates the expression of genetics and terroir diversity through the farmer's knowhow.	Global Quality scores and meaning below. For a Global Quality above 7, select positive qualities that best characterize the quality of the sample from the following list: • Uniqueness • Complexity • Harmony / Balance • Clear / Clean / Bright • Quality of Acidity • Quality of Astringency • Quality of Bitterness • Quality of Finish / Aftertaste	

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Score	Meaning of Global Quality Scores
0 1 2 3	• Serious off-flavours clearly characterizing the sample as defective • NOTE: be as specific as possible on the type of off-flavours as valuable feedback to the producers • Core and complementary attributes masked by off-flavours • Depending on the type, number and intensity of off-flavours, 0 would be the worst case and 3 the least but still bad
4	• Off-flavours in low intensity • Core attributes seriously unbalanced • Complementary attributes masked by off-flavours and unbalanced core attributes
5	• Off-flavours in low intensity • Core attributes unbalanced • Complementary attributes partially masked by unbalanced core attributes
6	• Off-flavours in low intensity • Core attributes unbalanced • Complementary attributes 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
7	• Absence of any off-flavours • One or more complementary attributes are outstanding but not in balance to core attributes • Overall plain flavour – mainly characterised by the core attributes and less of the complementary attributes
8	• Absence of any off-flavours • Core attributes well balanced with moderate base cocoa flavour • One or more complementary attributes are outstanding, in balance to core attributes and to each other • Overall flavour presents some complexity
9	• Absence of any off-flavours • Core attributes well balanced, good base cocoa flavour • Many outstanding complementary attributes, in balance to core attributes and to each other • Overall flavour presents a combination of complexity, uniqueness, harmony, brightness, clean finish
10	• Absence of any off-flavours • Core attributes well balanced, in low to moderate intensity, good base cocoa flavour • Complementary attributes 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

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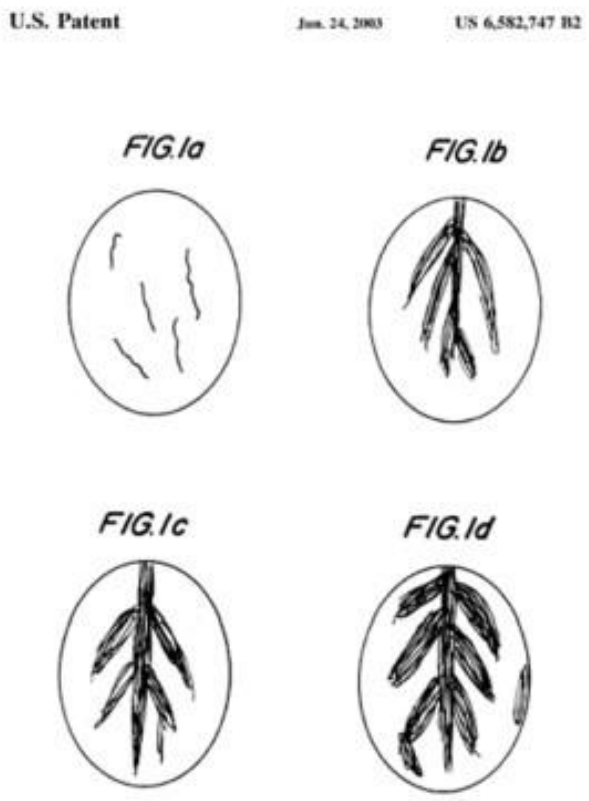
Annex 3. Cut Test References and Photos

3A. References

Cocoa cut test chart (left) and cocoa bean fissuring chart (right)

Reference: Sukha, D.A, Rohsius, C (2004) Cocoa Cut test chart. Technical Guide. The University of the West Indies, Cocoa Research Centre and University of Hamburg, Bio Centre Klein Flottbek.



Reference: Myers, M. E., Nwozu, C. V., Whitacre, E. J., & Hammerstone, Jr., J. F. (2003) United States of America Patent No. US 6,582,747 B2. [Online] Available from: https://patentimages.storage.googleapis.com/03/12/90/ddc53bc263dbf8/US6582747.pdf [Accessed 24 July 2018]

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3B. Overview of cut test

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3C. Cut test photos of beans

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

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17			Dark brown, Fissuring 4
18			Partly purple, Fissuring 3
19			Partly purple, Fissuring 4
20			Dark brown, Fissuring 4
21			Dark brown, Fissuring 4
22			Dark brown, Fissuring 4
23			Insufficient cut, Dark brown
24			Dark brown, Fissuring 4
25			Dark brown, Fissuring 4
26			Partly purple, Fissuring 4
27			Insufficient cut, Partly purple
28			Partly purple, Fissuring 4
29			Dark brown, Fissuring 4
30			Dark brown, Fissuring 4
31			Partly purple, Fissuring 3
32			Dark brown, Fissuring 4
33			Dark brown, Fissuring 4
34			Dark brown, Fissuring 4

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35			Partly purple, Fissuring 3
36			Partly purple, Fissuring 3
37			Dark brown, Fissuring 4
38			Dark brown, Fissuring 4
39			Dark brown, Fissuring 4
40			Dark brown, Fissuring 4
41			Brown, Fissuring 3
42			Dark brown, Fissuring 4
43			Dark brown, Fissuring 4
44			Dark brown, Fissuring 4
45			Dark brown, Fissuring 4
46			Dark brown, Fissuring 4
47			Insufficient cut, Dark brown
48			Partly purple, Fissuring 3
49			Dark brown, Fissuring 4
50			Dark brown, Fissuring 4