Quality Control Protocol 2022

Project Origin

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Purpose

This document outlines the coffee green bean quality control (QC) process and related protocols that are followed at Project Origin.

Why do we enforce quality control for our green beans?

At Project Origin we believe that coffee quality is the relationship between score, price, cup profile and purpose. We value every step involved in sourcing, buying and offering green beans, and we take our quality control measures very seriously. Our quality control protocols include coffee cupping and green grading assessments.

Background

At Project Origin we believe that coffee quality is the relationship between score, price, cup profile and purpose. That is why every step in our quality control process is highly respected as part of the final value of our coffees.

We take the score and cup profile results from the coffee cupping, the representative price and our relationship with the producer to determine our final price for the specific coffee that we then offer to our roasting partners. It is the combination of these elements that stamp the Project Origin value on the coffee. It is also our role to assess and maintain the quality of these coffees as it transitions through the warehouse to our roasting partners. This is where our collection of quality control measures take effect. At Project Origin, through our quality control measures, we prioritise cupping scores when making our final decisions about a coffee.



1. Buying Protocol

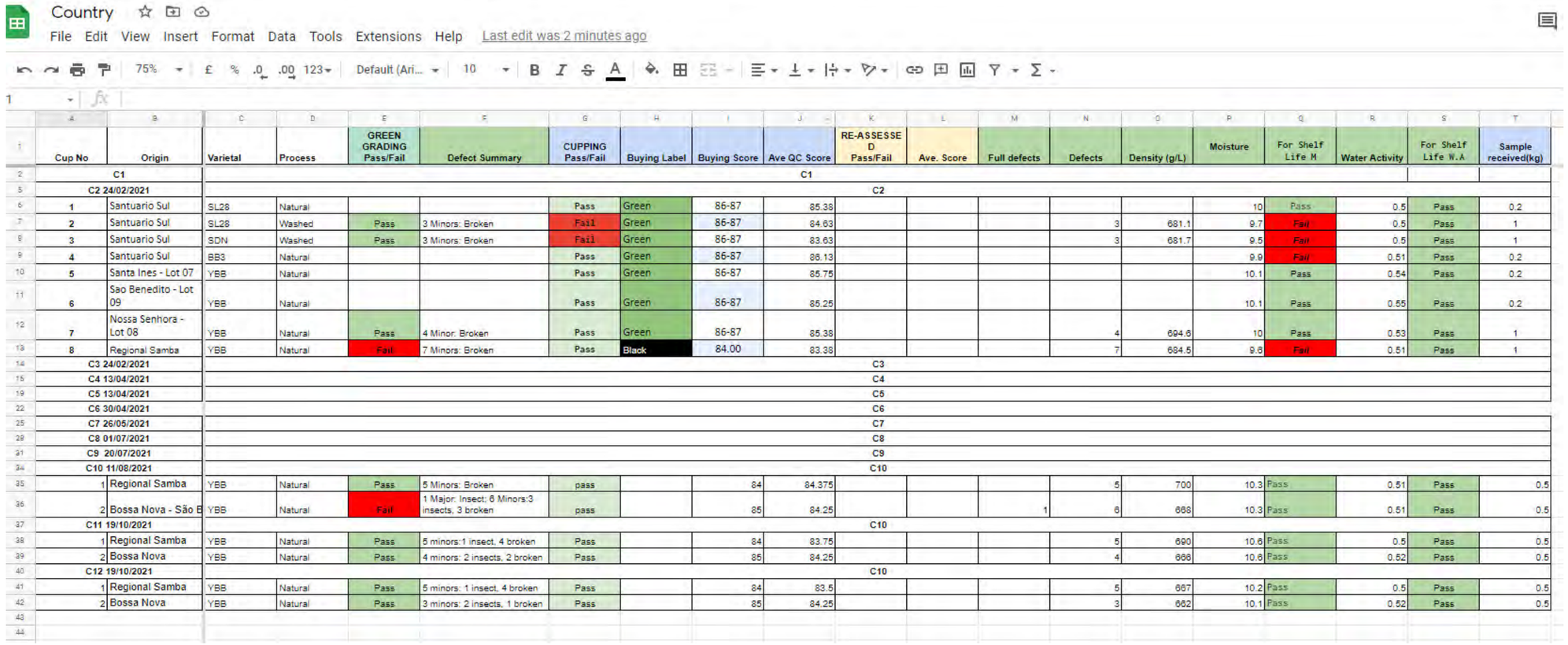
Any coffee purchased by Project Origin meets our quality standards that see the relationship between score, price, cup profile and purpose. To determine the aspects of score and cup profile, our team takes part in cupping samples.

Project Origin uses the cupping standards developed by the Specialty Coffee Association (SCA) when cupping coffees to determine our selection. During this process, cuppers rate the quality of a coffee and give scores based on clarity, sweetness, acidity, mouthfeel, balance, flavour, aftertaste and give an overall score of these attributes. At Project Origin, for traditionally processed coffees, we work with specialty coffees that are 83 points and above on the cupping table. These chosen coffees are organised into our labels: Black, Green and Gold. We additionally work with coffees that undergo experimental processing techniques. These coffees undergo the same quality control measures where the cupping score and profile is prioritised.

We structure ourselves the following way when cupping coffees to make purchasing decisions:

A. Cup coffees in groups of at least 3 people
B. At least 2 of those people must be responsible for buying the coffee
C. Scores and decisions are prioritised to those with greater cupping experience

After approving a coffee, we make the purchase, exchange contracts and arrange shipping instructions.



Country

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	Cup No	Origin	Varietal	Process	GREEN GRADING Pass/Fail	Defect Summary	CUPPING Pass/Fail	Buying Label	Buying Score	Ave QC Score	RE-ASSESSED Pass/Fail	Ave. Score	Full defects	Defects	Density (g/L)	Moisture	For Shelf Life M	Water Activity	For Shelf Life W.A	Sample received(kg)
2	C1									C1										
5	C2 24/02/2021										C2									
6	1	Santuario Sul	SL28	Natural			Pass	Green	86-87	85.38						10	Pass	0.5	Pass	0.2
7	2	Santuario Sul	SL28	Washed	Pass	3 Minors: Broken	Fail	Green	86-87	84.63				3	681.1	9.7	Fail	0.5	Pass	1
8	3	Santuario Sul	SDN	Washed	Pass	3 Minors: Broken	Fail	Green	86-87	83.63				3	681.7	9.5	Fail	0.5	Pass	1
9	4	Santuario Sul	BB3	Natural			Pass	Green	86-87	86.13						9.9	Fail	0.51	Pass	0.2
10	5	Santa Ines - Lot 07	YBB	Natural			Pass	Green	86-87	85.75						10.1	Pass	0.54	Pass	0.2
11	6	Sao Benedito - Lot 09	YBB	Natural			Pass	Green	86-87	85.25						10.1	Pass	0.55	Pass	0.2
12	7	Nossa Senhora - Lot 08	YBB	Natural	Pass	4 Minor: Broken	Pass	Green	86-87	85.38				4	694.6	10	Pass	0.53	Pass	1
13	8	Regional Samba	YBB	Natural	Fail	7 Minors: Broken	Pass	Black	84.00	83.38				7	684.5	9.6	Fail	0.51	Pass	1
14	C3 24/02/2021										C3									
15	C4 13/04/2021										C4									
19	C5 13/04/2021										C5									
22	C6 30/04/2021										C6									
25	C7 26/05/2021										C7									
28	C8 01/07/2021										C8									
31	C9 20/07/2021										C9									
34	C10 11/08/2021										C10									
35	1	Regional Samba	YBB	Natural	Pass	5 Minors: Broken	pass		84	84.375				5	700	10.3	Pass	0.51	Pass	0.5
36	2	Bossa Nova - São B	YBB	Natural	Fail	1 Major: Insect; 6 Minors:3 insects, 3 broken	pass		85	84.25			1	6	668	10.3	Pass	0.51	Pass	0.5
37	C11 19/10/2021										C10									
38	1	Regional Samba	YBB	Natural	Pass	5 minors:1 insect, 4 broken	Pass		84	83.75				5	690	10.6	Pass	0.5	Pass	0.5
39	2	Bossa Nova	YBB	Natural	Pass	4 minors: 2 insects, 2 broken	Pass		85	84.25				4	666	10.6	Pass	0.52	Pass	0.5
40	C12 19/10/2021										C10									
41	1	Regional Samba	YBB	Natural	Pass	5 minors: 1 insect, 4 broken	Pass		84	83.5				5	667	10.2	Pass	0.5	Pass	0.5
42	2	Bossa Nova	YBB	Natural	Pass	3 minors: 2 insects, 1 broken	Pass		85	84.25				3	662	10.1	Pass	0.52	Pass	0.5

2. QC measurements of green beans upon arrival

When green coffee beans arrive at the warehouse that have been purchased by Project Origin, samples are prepared for quality control and to ensure the received and purchased coffee matches the samples originally cupped and approved. The quality control measures the physical attributes of the beans by utilising multiple green grading protocols.

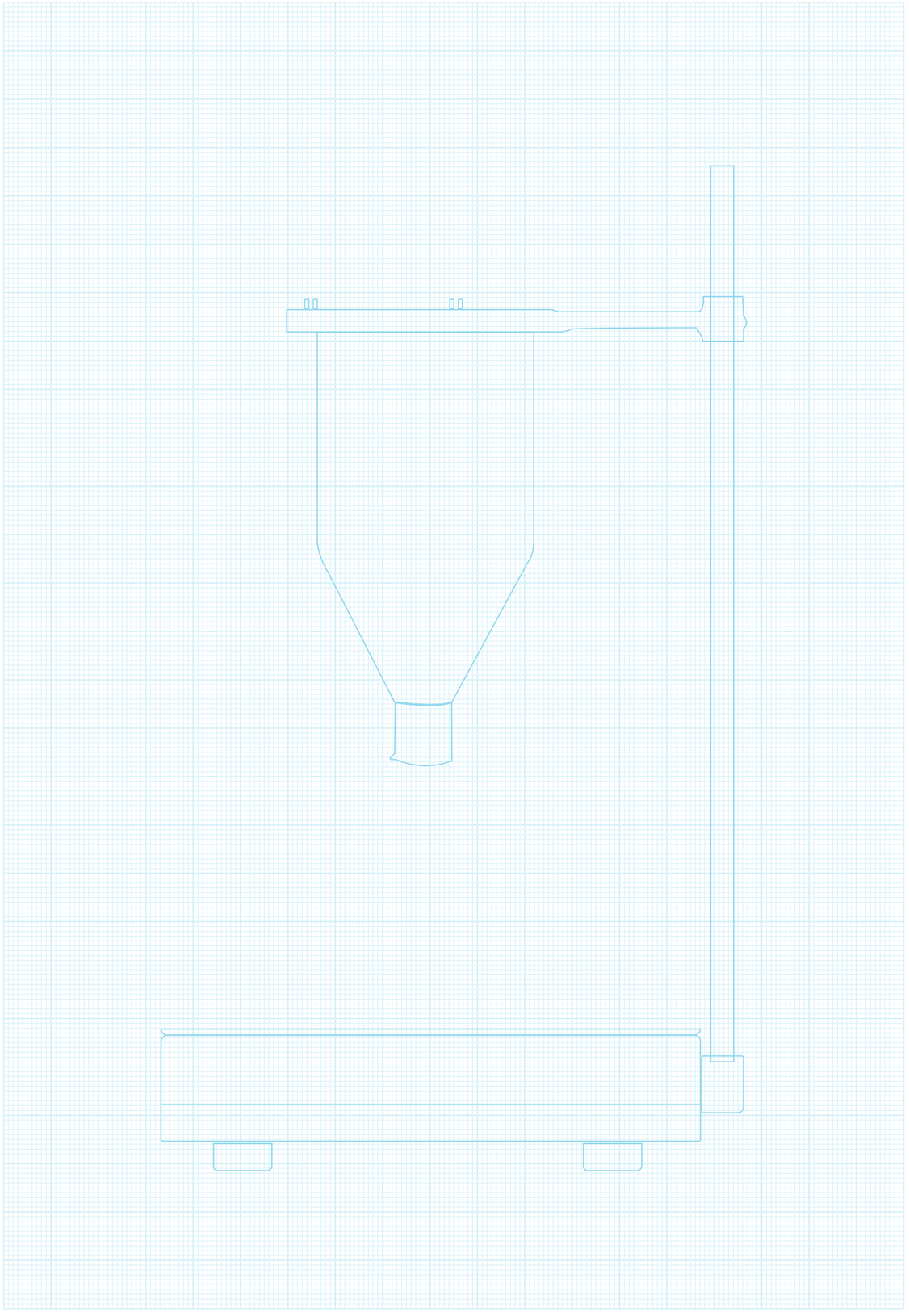
To undertake quality control assessments, we take:
-1kg sample of coffee that is available for sale, or
-350g* sample of coffee already sold to clients that require a QC check

* The 350g samples from sold coffee is obtained from clients who bought the largest quantity of that coffee and who authorised the QC check. Should a client not authorise the QC check, the client with the next largest volume purchased will be asked.

The Project Origin physical quality control assessment measures the following physical attributes of green beans, guided by the international standards developed by the SCA:

- Density
- Moisture content
- Water activity
- Green grading (classification of defects)

Once quality control assessments are complete, the samples are returned to the stock from which it originated. After each QC measurement is taken, the data is entered into the report's Spreadsheet.



2.1 Density

The density of a green bean is commonly expressed as grams per cubic centimetre (g/cm3). This means how many grams of green beans will fit into a cube of space 1 centimetre in height, width and depth. This measure does not refer to the size of the beans or to the total number of beans that fit within the space. It only refers to the total weight of the beans that fit within the space.

Measuring density can be helpful to roasters for roasting parameters, and the density results from our quality control can be shared with roasters if requested.

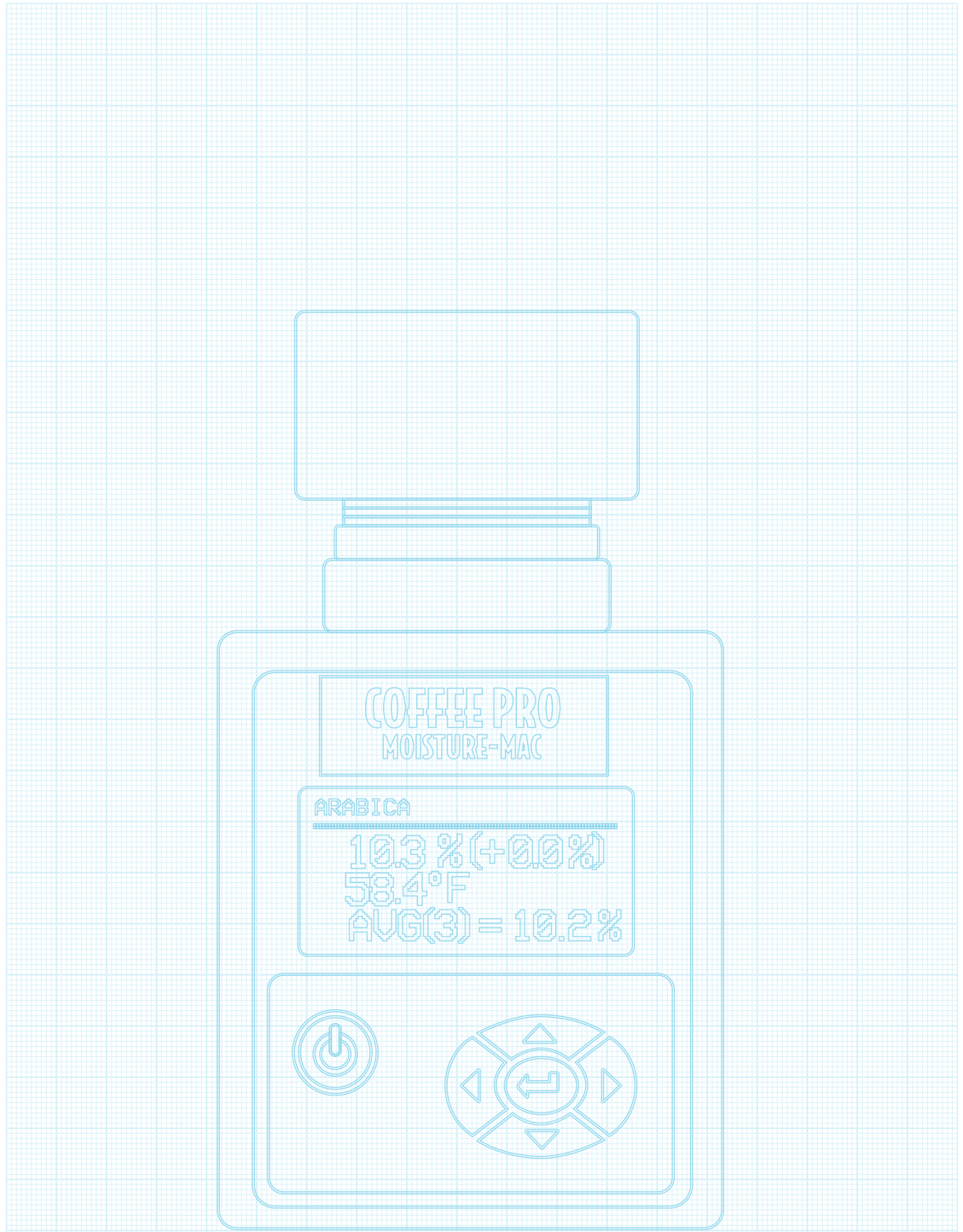
To measure green bean density:

We use a container or test tube of 2 different capacities: 1000mL or 100mL. The two capacities allow us to measure density from either our 1kg sample size or our 350g sample size respectively.

1. Take a scale and tare off a volumetric 1000mL container.
2. Place the container in the tray beneath the silver hopper.
3. Ensuring the hopper is closed, pour 1kg of green beans into the silver hopper.
4. Open the hopper and allow the beans to pour into the container. Some beans will overflow and land in the tray.
5. Once the hopper is empty, use a flat ruler to level off the beans in the container. Do not collapse the container prior to using the ruler.
6. Weigh the container on the scale. This weight will give you a number in grams. This will be the green bean density as x grams per 1000 cubic centimetres (the container is 1000mL)

Note: to complete this process for the smaller 350g sample, complete the same steps, but substitute the volumetric 1000mL container with a volumetric 100mL tube. Ensure the measurement can be read and levelled accurately to 100mL. The result will read as x grams per 100 cubic centimetres.





2.2 Moisture content

To measure humidity we use the Coffee Pro Moisture - Mac instrument. The instrument is calibrated each month. Our acceptable humidity range is 10%-12% moisture content.

To measure green bean moisture content:

1. Unscrew the top dial.

2. Fill the capsule with green beans until full to the top of the metre. Ensure air pockets are removed as much as possible and flatten the top in line with the top of the capsule.

3. Screw the lid back on to the metre. The silver valve on the lid will rise flush with the top of the lid. Should the lid not screw on properly or the silver valve does not rise, remove 2-3 green beans at a time until the lid can be screwed on properly and the silver valve rises flush with the lid.

4. Turn on the metre.

5. Select ARABICA as the setting.

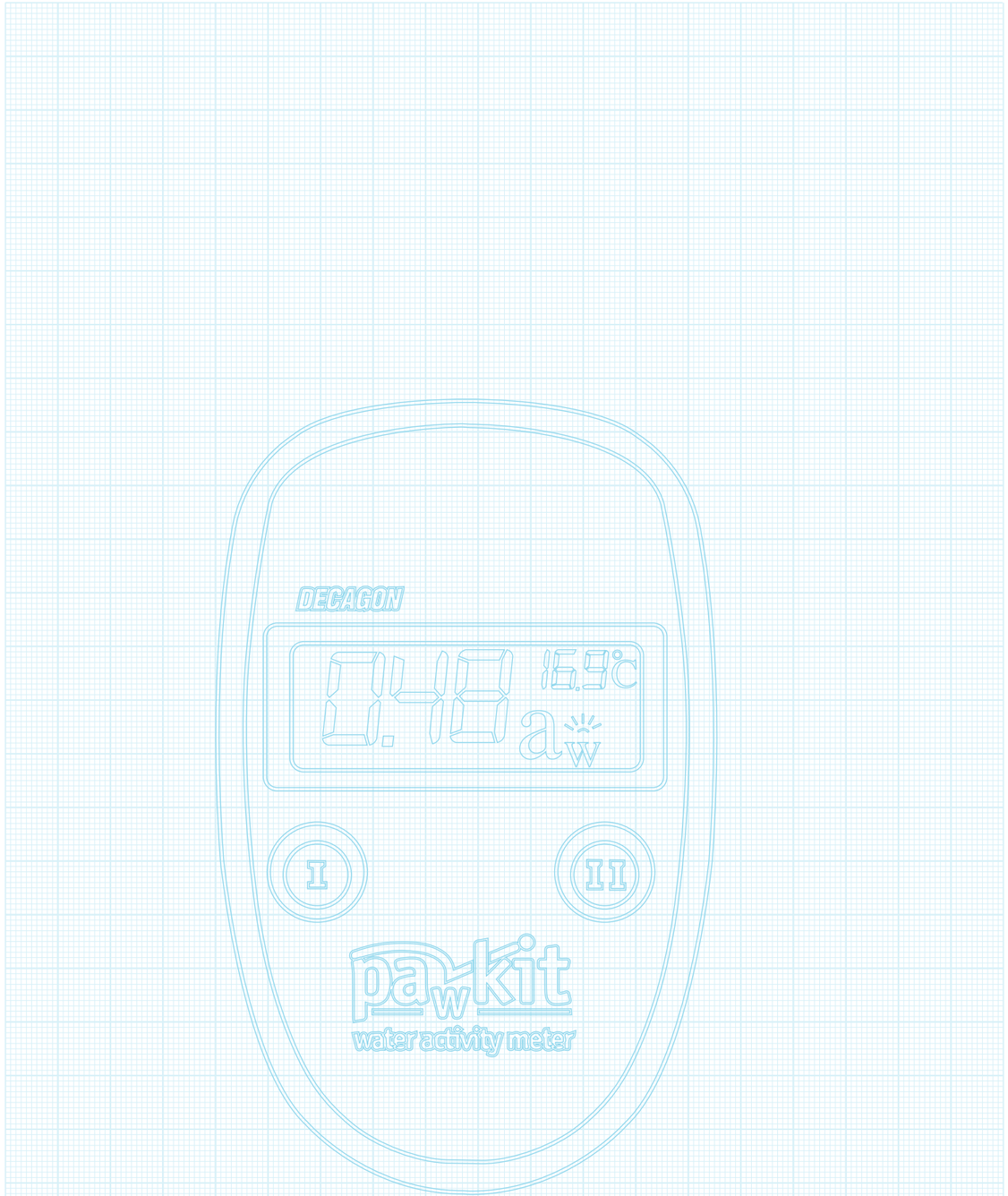
6. Place the metre horizontal on a flat surface. This ensures an accurate reading.

7. Press ENTER and note the reading as the percentage on the top line.

8. Repeat the previous step by pressing ENTER and noting the reading.

9. Continually repeat step 7 until you achieve 3 consecutive results that are the same measurement correct to one decimal point.





2.3 Water activity

To measure water activity we use the Decagon Pawkit metre.
Our acceptable water activity range is from 0.4 to 0.6.



To measure green bean water activity:

1. Fill the small plastic cup with green beans and flatten the top. The cup can be between half full and full for the metre to work. Leave this cup on a flat and stable surface.
2. Click off the lid on the back of the metre.
3. Place the ring on the back of the metre on top of the cup such that the metre sits flat and stable on the cup.
4. Turn the metre on using the left button.
5. Press the left button again to reset the number on the screen to 0.00. The metre will begin to measure automatically.
6. The ‘W’ at the bottom right of the screen will display lines above it when the metre is activated and reading. The reading takes 3-4 minutes to complete.
7. When the reading is complete, the metre will sound an alarm and the lines above the ‘W’ will disappear.
8. The reading for the water activity will be displayed as the large number on the screen to two decimal points.

Note: the temperature reading also measures ambient temperature, shown in the top right corner. Should the metre read below 12° Celsius, the metre may not provide an accurate reading.

Secondary Minor Defects			
Under Ripe (5)	Minor Insect Damage (10)	Broken (5)	Shell (5)
Partial Black (3)	Coffee Sample:		Withered (5)
	Major Defects:	Minor Defects:	
Partial Sour (3)			Parchment (5)
Floater (5)			Hull / Husk (5)

Primary / Major Defect s					
Full Black (1)	Full Sour (1)D	ried Cherry (1)	Fungus (1)	Foreign Matter (1)M	ajor Insect Damage (5)

2.4 Green Grading

Classifying defects

To undertake green grading assessments we refer to the SCA standard of classification to measure the physical appearance of the green beans. We sort through a 350g sample to identify beans with certain physical attributes that could affect the final cup quality. Beans with these physical attributes are commonly called defects.

There are two categories when classifying defects in green beans: category 1 or major defects and category 2 or minor defects. These defects each contribute varying points that collectively determine the overall quality of a green bean sample according to SCA standards.

Category 1

Major Defects

*If a green bean sample has a total point count of one category 1 defect or six category 2 defects, the sample does not pass SCA standards. In the event a green bean sample does not pass the SCA standards, Project Origin will assess the coffee in its cup profile and its purpose before finalising its overall assessment and listing the coffee as a pass or a fail for quality control.

Full Black



Full Sour



Dried Cherry



Fungus Damage



Foreign Matter



Major Insect Damage



Category 2

Minor Defects

*If a green bean sample has a total point count of one category 1 defect or six category 2 defects, the sample does not pass SCA standards. In the event a green bean sample does not pass the SCA standards, Project Origin will assess the coffee in its cup profile and its purpose before finalising its overall assessment and listing the coffee as a pass or a fail for quality control.

Floater Bean



Partial Sour



Partial Black



Minor Insect Damage



Broken Beans



Shell



Category 2

Minor Defects

*If a green bean sample has a total point count of one category 1 defect or six category 2 defects, the sample does not pass SCA standards. In the event a green bean sample does not pass the SCA standards, Project Origin will assess the coffee in its cup profile and its purpose before finalising its overall assessment and listing the coffee as a pass or a fail for quality control.

Withered Beans



Parchment



Hull or Husk



It is important to note how not all defects are weighted the same.

For example:
1 broken bean does not equal 1 defect. 5 broken beans do equal 1 defect.

1 partial black bean does not equal 1 defect. 3 partial blacks do equal 1 defect.

Imagine we are grading a 350g sample. Using the examples above, we find 5 broken beans and 3 partial blacks. The 5 broken beans equal 1 defect under Category 2, and the 3 partial blacks also equal 1 defect under Category 2. We would have a total of 2xCategory 2 defects. This sample would pass green grading, as we require a total of 6xCategory 2 defects to fail the assessment.

A common mistake is to count each individual bean with a defect as 1 full defect. The SCA table provides the numbers for reference to allow an accurate reading of the defects in a sample. Another common mistake when green grading can be the misidentification of defects. The physical shape or colour of the bean may be a result of processing and not a defect. Extended natural fermentation beans may be yellowish in colour, which can be confused for a sour defect. Similarly, the silver skin on a bean may also be misidentified as a sour. A misshapen bean may simply be an ugly shaped bean, and not a broken bean.

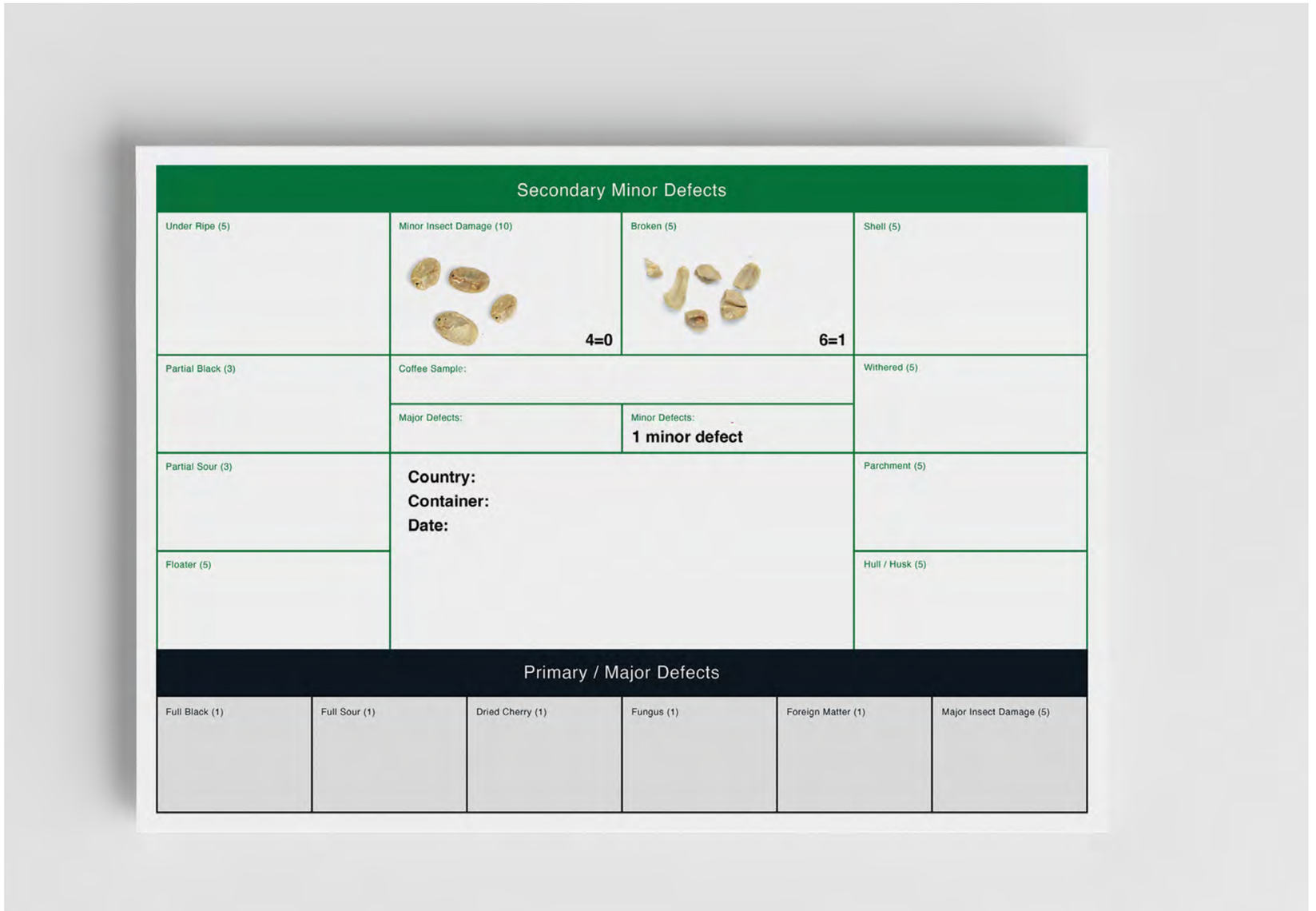
Green grading is performed on all coffees that arrive in the warehouse. For coffees that are sold out prior to arrival, we ask the client if they want the QC assessment performed on their stock. Feedback to origin is provided for coffees that are washed, semi-washed, honey or natural processed. In the case of experimentally processed coffees, there may be visual attributes that affect its green grading score.

For all coffees, we prioritise cupping results to ensure flavour attributes meet our standards.

To perform a green grading assessment:

Green grading uses a 350g sample of green beans and requires 10 minutes per sample. The 10 minutes allows enough time to sort through the sample size without over examining the beans. For the most accurate assessment, the 350g sample should be laid in a flat tray to contain the beans with a white background to accurately see the beans. Any beans that are identified with a defect should be separated on a paper that allows for a separation of defects. This allows for an accurate and easy reading and calculation of defects at the end of the assessment.

Here is an example of how the green grading sheet looks once the sample check is complete:



Secondary Minor Defects			
Under Ripe (5)	Minor Insect Damage (10) 4=0	Broken (5) 6=1	Shell (5)
Partial Black (3)	Coffee Sample:		Withered (5)
	Major Defects:	Minor Defects: **1 minor defect**	
Partial Sour (3)	**Country:** **Container:** **Date:**		Parchment (5)
Floater (5)			Hull / Husk (5)

Primary / Major Defects					
Full Black (1)	Full Sour (1)	Dried Cherry (1)	Fungus (1)	Foreign Matter (1)	Major Insect Damage (5)

The green grading sheet is used to separate and classify green beans by their defect. Once the sample has been fully checked, the defects are counted and calculated in reference to the SCA Classification System to provide a score. This score determines whether or not the sample passes SCA QC. The overall pass or fail QC assessment is determined in reference to our quality values. Once the sample has been checked, the entire 350g sample is returned to the bag from which it was taken.



3. Cupping protocols

The Statistics & Standards Committee of the SCA recommends these standards for conducting a coffee cupping. These guidelines will ensure the ability to most accurately assess the quality of the coffee. Please follow this link.

When assessing coffee, Project Origin uses an adapted Cup of Excellence score sheet that can be used across traditional style processed lots, carbonic maceration processed lots and experimental processed lots.

4. Information Index

All of these scores and measurements are stored in a file with relevant photos of the physical attributes if necessary. The file contains information including lot name, container, date, harvest, sample tests, a photo of the final green grading physical assessment and overall QC results.



5. Protocol for Pass vs Fail

Once the green beans are checked for all assessments, they either pass or fail Project Origin's QC.
Green beans that pass QC have the report sent to the Project Origin sales team for their reference.

Taking samples from clients for QC

Project Origin can take 350g samples from beans that are already sold to clients with their permission to perform a QC check. In the event that a coffee is sold-out prior to arrival in the warehouse, Project Origin will request to perform a QC assessment on a sample from the client who purchased the greatest volume of that coffee. Should the client deny the QC assessment, the client with the second largest volume of that coffee will be asked. Clients may also request for Project Origin to perform a QC assessment on their purchased coffees prior to it shipping from the warehouse to their roastery.

Coffees that fail QC

Green beans that do not pass QC undergo the following protocols:
Coffee that fails QC on green grading has the cupping results checked and the results are raised. Failed lots will never return to origin, but its purpose can be re-arranged with the sales team.
Coffee that fails QC on cupping is re-cupped. If the second cupping passes QC standards, the coffee is considered a pass. If the second cupping fails QC standards, the results are raised. Failed lots will never return to origin, but its purpose can be re-arranged with the sales team.

Coffees already sold that fail QC on arrival

If a pre-sold coffee fails QC assessments and reassessments, a new sample is taken from a different bag, with permission from the client, for QC assessment. Should this sample also fail QC assessment, the issue and report is raised. Failed lots will never return to origin, but its purpose can be re-arranged with the sales team.


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