Protected food, drink or agricultural product name

Product specification for LOJANO CAFÉ DE ORIGEN

A protected designation of origin (PDO)

Responsible country: Ecuador

GB number: F0090

Competent authority

Name: Ministerio de Producción, Comercio Exterior, Inversiones y Pesca

Address: Plataforma Gubernamental Financiera. Amazonas entre Unión Nacional de Periodistas y Alfonso Pereira.

Quito - Ecuador

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Email: dgarcia@produccion.gob.ec, jgranjaa@produccion.gob.ec

Applicant group

Name: Sociedad de hecho denominación de origen café de loja

Address: Calle Clotario Paz 19-28 y Ramón Burneo, Barrio Lojana De Turismo, Parroquia Valle, Cantón Loja (A 200 Metros De La Rectificadora Zabaleta)

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Composition: Producers

Type of product (as in Annex XI Implementing Regulation 668/2014)

Class 1.8. other products listed in Annex I to the Treaty (spices etc.)

1. Product name(s)

Café Lojano de Origen

2. Description

The protected coffee belongs to the Arabica species, with its identified varieties and hybrids: Typica, Improved Typica, Caturra, Bourbon, San Salvador, Acawa, Catucai, Catimor, Sarchimor, Geisha, Catuaí, Pacas, Paraíso, Obata, Oeiras, Catigua, SL-28, Pacamara, Bourbon Sidra, Colombia.

Organoleptic profile: The coffee is characterized by robust organoleptic attributes, including strong and intense presence of fragrance and flavour. The flavour which is discernible on the palate with an inclination towards sweetness—manifesting as notes of fruits, chocolates, or florals. There is no bitterness, aseptic flavour or smokiness. The coffee has a citric acidity, medium body and creamy aftertaste which is clean and long lasting. The aroma is delicate and fruity.

Due to the geographic positioning of the coffee growing cantons of the delimited zone and their climatic particularities, four corridors were defined:

Corridor 1. Canton Chaguarpamba, Olmedo, Paltas.
Corridor 2. Canton Espindola, Quilanga, Calvas, Sozoranga, Macará.
Corridor 3. Canton Loja, Catamayo, Saraguro.
Corridor 4. Puyango, Pindal, Celica

The organoleptic cup profiles divided into 4 sections according to climatic and geographical characteristics.

Corridor 1: Chaguarpamba, Olmedo, Paltas cantons

Canton	**Altitude (msnm)**	**Average Temperature (oC)**	**Humidity (%)**	**Precipitation (mm per year)**
Chaguarpamba	420 – 1938	21,2	80	1.400
Olmedo	960 – 2371	23,5	80	700-1.200
Paltas	320 – 3086	20	80	1.400

Corridor 2: Espíndola, Quilanga, Gonzanamá, Calvas, Sozoranga and Macará cantons

Canton	**Altitude (msnm)**	**Average Temperature (oC)**	**Humidity (%)**	**Precipitation (mm per year)**
Espíndola	1.200 – 2.100	20,3	75	1.300
Quilanga	1.880	19,8	75	1.300
Gonzanamá	880 – 3.097	16,8	75	1.300
Calvas	1.932 – 2.463	17,7	75	1.375
Sozoranga	520 – 2627	20,5	75	600 – 900
Macara	250-2613	26	70	500-1.000

Corridor 3: Loja, Catamayo and Saraguro cantons

Canton	**Altitude (msnm)**	**Average Temperature (oC)**	**Humidity (%)**	**Precipitation (mm per year)**
Loja	1.200 – 2.000	19,8	70	1.180
Catamayo	680 – 2.946	24,2	80	1.400
Saraguro	798 – 3.800	16	76	1.626

Corridor 4: Puyango, Pindal and Celica cantons

Canton	**Altitude (msnm)**	**Average Temperature (oC)**	**Humidity (%)**	**Precipitation (mm per year)**
Puyango	200 – 3.086	22,6	72	1.400
Pindal	240 – 1.232	26	61 – 81	912
Celica	400 – 2.665	22	61 - 81	953

Coffee has 3 flavour/ aroma attributes:

Coffees with predominant fruit notes such as blackberries, raspberries and cherries, floral such as coffee blossom and jasmine.

Sugar cane, honey, caramel, chocolate and citrus fruits such as orange, grapefruit, tangerine and lime.

Dried fruits, aromatics, herbals, florals, cereals, nuts, tobacco, etc.

2.1 Physical analysis:

Density: ≥ 1.365 g / ml.

Size: ≥ 14 sieve.

Classification: maximum 15 secondary defects and 0 primary defects per 350 g sample.

Primary defects manifest directly in the coffee bean and encompass:

- Black coffee beans
- Vinegar coloured coffee beans
- Dried cherries
- Big stones
- Medium stones
- Long sticks
- Medium sticks

Additionally, secondary defects include:

- Parchment
- Peel
- Split grain
- Brocade grain
- Partial vinegar
- Float

- Snail
- Small rocks
- Small sticks
- Water-damaged grains

The repercussions of these defects on the flavour profile of coffee are as follows:

- A black grain may impart a phenolic or fishy note.
- Sour beans can contribute to an herbaceous or sour cup flavour.
- Broken grains may result in an inconsistent roast, generating an unbalanced flavour.
- Low-density beans may yield a dry or papery flavour.
- Beans with infestation may introduce a sour taste or diminish the overall flavour of the coffee.
- Mouldy beans can produce an earthy or over-fermented flavour.
- Green grains have the potential to generate an astringent flavour.

Humidity: 10 - 12%.

Colour: Homogeneous green-blue (characteristic of a 100% new harvest coffee).

Sensory Note: Clean cup (without defects) and a cupping score of ≥ 80. The cupping score is based on the SCA (Specialty Coffee Association) evaluation of the coffee. Scores 80 and above denote a specialty coffee.

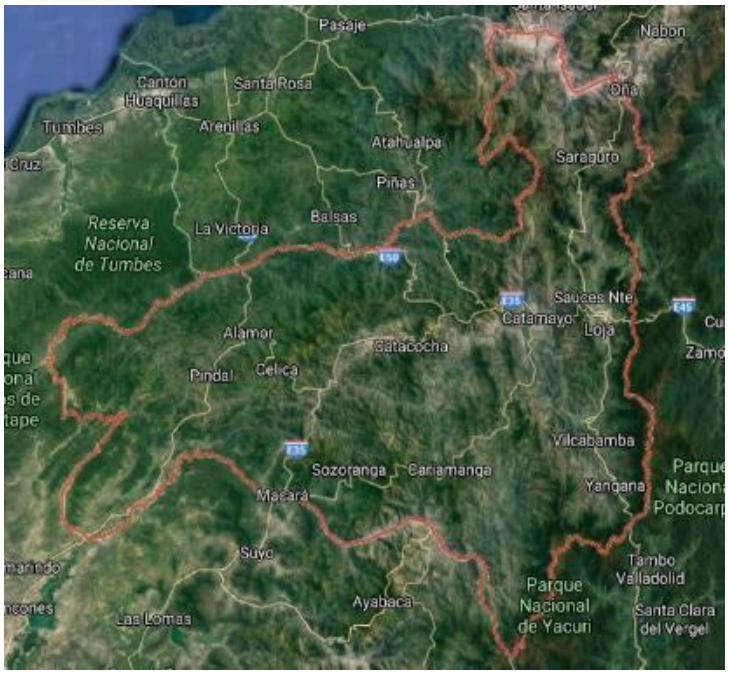
2.2 Chemical analysis:

Measured parameter	Average values (%)
Total fat	11.175
Total sugars	7.975
Protein	12.5
Caffeine (Reported on dry basis)	1.325

3. Geographical area

Ecuador, Loja province. Chaguarpamba, Olmedo, Paltas, Celica, Espíndola, Quilanga, Gonzanamá, Calvas, Sozoranga, Macará, Loja, Saraguro, Puyango, Catamayo, Pindal cantons.

Coffee is produced in 15 of the 16 cantons that make up the province of Loja, in different altitudinal levels ranging from 600 to 2200 meters above sea level.



4. Proof of origin

Each batch of coffee must have undergone a physical analysis which classifies the beans by size and yield and an organoleptic analysis.

The coffee for storage must be placed in laminated plastic bags, or other of the same quality or technology, inside nylon, fique, jute or cabuya sacks using pallets, separated from walls and roof. In addition, it must be properly labelled inside and outside the bag with the following information: producer's name, province, canton, producer's code, harvest date and the name "Lojano Café de Origen".

The control plan of the Denomination of Origin (DO) "LOJANO CAFÉ DE ORIGEN" guarantees that a batch of coffee, green, roasted or ground that obtains this geographical distinction comes from the delimited area of the (DO). Therefore, the Regulatory Office takes into account the following aspects:

- Program of production, transformation, and elaboration of the grain.

The disclosure of the conditions to be fulfilled at the level of the actors of the commercial chain for the use of the Denomination of Origin of "LOJANO CAFÉ DE ORIGEN" corresponds to the Regulatory Office. This entity will be in charge of monitoring compliance with these through the Control Plan (Self-control, Internal Audit and External Audit). In addition, it will ensure that a follow-up of the traceability of the product is carried out and maintained, using the following information as a basis: register of producers' farms, registry of plots and areas, registry of harvests, registry of coffee lots, cupping result report (sensory profile), sales records, request for authorization to use the seal. All of these mechanisms guarantee the traceability and quality of the product.

- Control System

Control systems and product certification are essential elements to guarantee the origin of the product and are based on two elements:

The registered producers/processors, as suppliers of the product that have passed the certification process, are the party responsible for ensuring that the products marketed with the Denomination of Origin (D.O.) comply with the requirements of the Specifications.

The authorized control and certification body of the Denomination of Origin (D.O.) will apply systems that include, among others: product certification (farm visits to validate and verify information in the records, visits to processing centres to validate and verify information in the records, visits to tasting laboratories to verify the sensory analysis processes, and follow-up on the traceability of the product by registered users.

The authorized control and certification body of the Denomination of Origin (D.O.) will apply systems that include, among others:

Verification of information of operators (producers, brands, and exporters), operators are registered through a digital system of the Regulatory Office, the following is requested:

Producer Registration:

- Farm registration section: Location, surface area, document that confirms that the farm is owned or leased.
- Plot registration section: Coffee varieties, crop area, estimated production.
- Crop registration section: Harvest period, estimated crop production, type of coffee drying, varieties.
- Lot registration section: Volume to be sold and the state of coffee as sold (parchment, ball or gold).
- Sale registration section: Attaches coffee sale document to a registered brand or exporter and verified in the digital system by the Regulatory Office.

Trademark Registration:

- Brand registration section: Entry of the volume of coffee from the batch of green coffee registered and verified in the digital system by the Regulatory Office, entry the volume of green coffee threshed, green coffee sample analysis by laboratories in the province of Loja registered by the Regulatory Office, current sanitary notification document.
- Roaster registration section: Enter roasters registered in the system or enter a roaster to later be verified by the Regulatory Office.
- Green coffee batch processing registration section: Volume of gold coffee to be roasted, volume of roasted coffee, coffee roasting level, coffee grinding level, number of coffee bags and presentations (grams, pounds, etc.).
- Payment for issuance of stamps and issuance of certificate of origin for each lot certified in the digital.

Exporter registration

•Exporter registration section: Entry of the volume of coffee from the batch of green coffee registered and verified in the digital system by the Regulatory Office, entry of the volume of green coffee threshed, analysis of green coffee samples by laboratories in the province of Loja registered by the Regulatory Office, attached OIC document (International Coffee Organization), Information of the importing company.

Inspections

Technicians: They visit farms to validate and verify information, the technicians use a check list issued by the digital system, this check list is the information that operators record, the following parameters will be evaluated:

Producer: Farm is located on the province of Loja, the farm is owned or leased by the producer (through a legal document).

Brand: Analysis of coffee sample from the lot to be certified is at minimum of 83 points based on the SCA, has a legal document to market roasted and ground coffee (sanitary notification), the roasters must have current legal documents (operating permit) that allows them to process roasted and ground coffee, have adequate coffee roasting machines that allow controlling fats and temperature, the coffee roast must be higher than 45 degrees based on the Agtron scale.

Exporter: Analysis of the coffee sample from the lot to be certified must have a minimum of 83 points based on the SCA and have a legal document to export coffee.

The means of verification of the inspection are:

- Check list signed by the inspection technician and the operator (producer, brand/roaster, exporter).
- Photographic file of the farm and coffee production.
- Technical report with observations found in the inspection.

Supervisor: Verifies the information in the system is in charge of managing the digital system information. If the supervisor verifies any inconsistency sent for inspection and determines whether the information is based on the specifications and regulations for use of the DO "Lojano coffee of Origin".

5. Method of production

Coffee is grown in agroforestry systems in the traditional "Lojana garden", ripe cherries are harvested.

Protected coffee is produced under a variety of microclimates and adequate technical-productive processes, harvesting and post-harvesting by humid means, conserving its physical, chemical and sensory characteristics. The physical, chemical and organoleptic characteristics of Loja's coffees with Denomination of Origen (DO) are essentially attributed to the climatic conditions, the soils, the varieties cultivated, the agronomic management carried out by the producers in their

plots and the harvest and post-harvest processes, until the dry parchment coffee (DPC) is obtained on the producer's farm.

5.1. Agronomic part:

5.1.1. **Weeding of coffee plantations**: Weeds pose a significant challenge within coffee plantations due to their robust survivability, resilience in prolonged drought conditions, prolific seed production, ease of dispersion, and adaptability to various environments. Consequently, coffee growers must achieve effective control over weeds.
5.1.2. **Shade tree pruning**: From the second year of use of the PDO, perform a thinning and / or pruning of trees per cycle after harvest. Shade regulation will be carried out according to the location of the plantation.
5.1.3. **Coffee plant pruning:** Maintenance pruning of coffee plants should be carried out per production cycle and after harvest.
5.1.4. **Phytosanitary control**: Application of pesticides to be carried out up to one month before the harvest of the ripe cherry grain.
5.1.5. **Nutrition:** In order to keep the coffee plantation in good condition, edaphic application should be done per year, whether it is chemical or organic synthesis.

5. 2. Harvest and post-harvest

5. 2.1. Harvest

5. 2.1.1 Harvest coffee cherry beans (ripe), up to 5% of ripe black coloured beans will be accepted, not green or over-ripe.
5. 2.1.2 The collection of coffee cherry beans on the farm and transportation to the profit centres must be carried out in clean containers free of any smell.

5.2.2. Postharvest and Storage:

After the harvest, before coffee can be roasted, it needs to be processed. There are three main methods for processing coffee. The process used is dependent on market requirements.

1. Washed: ripe coffee fruits are harvested, pulped, fermented and the mucilage of the coffee is washed.

2. Natural: the ripe fruits are harvested, fermentation may or may not be carried out and the fruits are dried without removing the pulp or mucilage.

3. Honey: the ripe fruits are harvested, pulped, fermented and dried without washing or removing the mucilage

5.2.2.1. Wet mill

- The coffee is processed on the same day it is harvested.
- Use clean water throughout the process.
- Sort the cherries by placing in a container with water. Those that remain at the bottom of the container are ripe coffee beans, those that float is discarded. This process is called buoying.
- Classify coffee by removing dry, dark or green beans, impurities.
- Carry out pulping through pulping machines and / or remove the mucilage from the beans.
- Fermentation of the coffee can be done in plastic, cement or stainless-steel tanks. Timing will depend on the temperature and coffee variety.
- Coffee washing.
- When using a pulper, coffee can be fermented wet or dry.
- Wash the pulpers and other equipment before and immediately after being used.

5.2.2.2. Drying of coffee

- After washing, spread the coffee over a drying area and make continuous movements to ensure homogeneous drying.
- Drying can be done in African beds, canopies, clotheslines (wood or cement) or mechanical dryers.
- Coffee beans should not be in direct contact with the ground or on plastic.
- Drying area must guarantee adequate air circulation, avoiding entry of animals.
- Drying temperature must not exceed 45 degrees centigrade.
- Parchment coffee should reach a final humidity between 10% and 11%.

5.2.2.3. Dry Parchment Coffee Storage

- Dry bean will be stored in laminated plastic bags, or another bag such as clean nylon or jute bags, guaranteeing sealing conditions.
- Coffee must be stored, in well-aired spaces, protected from the sun, rain and without other products that may cause contamination odours.
- Coffee bags must be placed on bases or pallets, avoiding direct contact with the floor. They should also be separated by a minimum of 15 centimetres and a maximum of 50 centimetres from the walls.

5.2.2.4. Dry mill (Roasting and Grinding)

5.2.2.4.1. Green or almond coffee (unroasted coffee beans)

- Threshing machines or coffee processing plants are used.
- The beans are threshed, separating the husk or chaff,

• The Beans are classified by size and separation of defects with equipment or machinery suitable for it and / or manually. The process involves meticulously removing the parchment or dry cherry shell from the coffee bean until it undergoes a transformation into golden coffee. This refined product is then prepared for the subsequent stages of roasting, grinding, and, ultimately, consumption.

• The coffee must be free of live or dead insects. Avoid mixture of beans of different humidity, new and old beans and unpleasant odours uncharacteristic of a recent harvested coffee.
Permissible moisture content: 10 to 11%.

5.2.2.5. Roasting equipment
Roasting and grinding of protected coffee will be carried out only on parchment or gold coffee beans, previously certified by the Denomination of Origin. The parchment is a papery substance that surrounds the bean, gold coffee beans have the parchment removed. Coffee harvest of the second semester of the previous year and the harvest in progress can be used for roasting.

5.2.2.6. Roasting process
Roasting will be carried out through processes that allows temperature control and exposure time of the bean.

The roasting time depends greatly on the variety of coffee, the post-harvest process, the type of machine and heat distribution system used and the degree or level of roasting to be carried out, but in general roasting should not exceed 20 minutes and the minimum roasting time is 12 minutes.

6. Link with the geographical area

The main factors at the production level that affect the sensory profile of coffee are:

Natural factors:

Empirically it has been observed that the topography of the province of Loja, with its different altitudes, generates microclimates that favour the production and quality of coffee.

- Biophysical: Soil, temperature, precipitation and luminosity.
- Botanical: Species, variety.
- Geographical: Latitude and altitude.

In order to establish the relationship between protected coffee and the geographical area, the following zoning parameters related to edaphic and climatic variables were determined.

- Edaphic variables: depth, texture, pH, fertility, organic matter, nitrogen, phosphorus, potassium, topography.

Depth	Shallow from 0 to 20 cm Moderately deep from 50 to 100 cm
Texture	Sandy and sandy clay
pH	Acids and slightly acidic from 4.5 to 6.5
Fertility	Low to very low
Organic Matter	Medium to low
Nitrogen	Medium to low
Phosphorus	Generally low
Potassium	Medium to low
Topography	Inclined in most of the coffee growing areas, which determines the presence in most of them of Entisols and Incentisols that represent young soils.

Table . Classification of soil fertility for properties of interest. Adapted from Sadeghian

Land Ownership	**Unit**	**Category**		
		Low	**Mid**	**High**
Organic matter	%	< 8,0	8,0 – 16,0	> 16,0
Nitrogen	%	< 0,34	0,34 – 0,58	> 0,58
Available phosphorus	mg. kg	< 10,0	10,0 – 20,0	> 20,0
Exchangeable potassium	cmol. kg	< 0,2	0,2 – 0,4	> 0,4
Exchangeable magnesium	cmol. kg	< 0,6	0,6 – 0,9	> 0,9

- Climatic variables: Precipitation, temperature and altitude.

The average annual temperature in Loja province ranges from 16°C in Saraguro canton, in the north, to 24°C in Macará, in the extreme south. Rainfall variations throughout the province range from 500 to 1,626 mm. In this region the Andes Mountain range presents its lowest altitudinal distribution and a very particular physiography, this added to the variety of temperatures and different levels of precipitation mean the province of Loja has a great diversity of microclimates: including dry valleys, cloud forests, moorlands and Amazonian forests, which favour the production and quality of Arabica coffee.

Precipitation
In the coffee growing areas of the province of Loja, the first rains begin in September-October and with them begins the flowering of coffee, then the rains are concentrated between January and April, which favor an adequate filling of the grain. This annual distribution of rainfall, although concentrated in a few months, nevertheless has a marked influence on the development of the plant, the development of its fruits and, consequently, its quality.

6.1.1 Temperature

The temperature becomes an important factor in the production of quality coffees since the air temperature directly influences the duration of the phenological cycle of the crop, thus conditioning the time and circumstances of the harvest.

In the zone delimited for the DO "Lojano Café de Origen" there are temperatures between 16 and 26 °C, which allow the time elapsed between flowering and the ripening of the fruits to occur in approximately 8 months, facilitating an adequate filling and ripening of the bean and that the harvest takes place in the months when there is no rain (May - August).

The increase in temperature accelerates the development of the fruit of the coffee plant, reducing the duration of its cycle. Thus, the ripening of the fruits can still occur during the rainy season (January - April).

6.1.2. Precipitation

In the coffee growing areas of the province of Loja, the first rains begin in September-October and with it begins the flowering of coffee, then the rainfall is concentrated between January and April, which favour an adequate filling of the grain. This annual distribution of rainfall, although concentrated in a few months, nevertheless has a marked influence on the development of the plant, the development of its fruits and consequently the quality.

Rainfall is a fundamental factor for its growth and quality. The number of nodes and leaves formed depends, to a high degree, on the availability of water and energy (solar radiation and temperature), which directly influences the next harvest, given that the number of flowers that the coffee tree can produce depends closely on the number of nodes of the lateral branches.

Once the fruit is developed the internal liquids of the fruit solidify, forming grains. This phase generally occurs in the period from January to March and is the phase of greatest water demand of the plant.

6.1.2. Altitude

The altitude is a determining factor in the quality of coffee, since producing coffee at a higher altitude above sea level increases the density and hardness of the beans, as well as the degree of acidity, aroma, flavour and body, which makes the beans and the beverage more appreciated. At lower altitudes, with higher temperatures and humidity, ripening is faster, so a good post-harvest process becomes crucial to improve quality.

The organoleptic profiles of the cup according to coffee varieties:

Variety	Aroma	Fruity flavor	Floral flavor	Vegetalble flavour	Dried fruit flavor	Acidity	Body	Bitterness	Sweetness	Balance
Acawa	3,23	2,59	0,14	0,64	1,39	2,95	2,73	0,96	2,32	2,91
Catucai 2SL	3,54	2,83	0,42	0,67	1	3,38	3,21	0,67	2,67	3,67
Catucai 785-15	4	3,75	1	0,25	1,13	3,75	3,5	0,38	3,38	4,13
Catimor	3	1	0	2	2,25	2,75	2,5	1,75	2,13	2,38
Sachimor	3,4	2,15	0,21	0,63	1,79	3,04	2,63	1,08	2,17	3
Bourbon SL 28	4,25	3,5	3,5	0	0,25	3,5	3,75	0,25	3,75	4,12
Caturra	3,53	2,62	0,67	0,75	1,45	3,21	2,92	0,96	2,69	3,07
San Salvador	2,75	2	0	0,5	1,12	2,87	3,18	0,87	2,5	3,06
Typica	3,33	2,15	0,71	0,75	1,44	3,02	2,96	1,03	2,42	3,05
Improved typica	4,75	4,25	2,25	0	0	4,25	3,75	0	3	4,5
Caturra	3,53	2,63	0,68	0,75	1,45	3,21	2,92	0,96	2,7	3,07
San Salvador	2,75	2	0	0,5	1,12	2,87	3,18	0,87	2,5	3,06
Typica	3,33	2,15	0,71	0,76	1,45	3	2,96	1,03	2,42	3,05

The organoleptic profiles are divided into 4 sections according to climatic and geographic characteristics:

For a better understanding of the cup profiles, the name contains information on heights, varieties and the corresponding corridor, as follows: 776: ACAWA (Puyango) (4).

- 776: Corresponds to the height

- ACAWA: Refers to the variety,

- Puyango: Canton to which the coffee belongs, and

- 4: Corridor number to which the canton corresponds.

Variety	Aroma	Fruity flavor	Floral flavor	Vegetalble flavour	Dried fruit flavor	Acidity	Body	Bitterness	Sweetness	Balance
776: Acawa (Puyango) (4)	3,25	2,75	0,75	0	0,75	3,25	3,37	0,5	2,75	3,37
798: Acawa (Pindal) (4)	3	3,5	0	0	2	3,25	3	0,25	3,25	3,63
890: Acawa (Pindal) (4)	3	2	0	1,5	1,75	2,75	2,75	1,25	2	2,62
900: Sarchimor (Puyango) (4)	2,75	2,12	0	0,5	1,75	2,75	3	0,75	2	2,87
952: Sarchimor (Chaguarpamba) (1)	3,75	3,25	0,5	0	2	3,5	3	0,75	2,25	3,5

Variety	Aroma	Fruity flavor	Floral flavor	Vegetalble flavour	Dried fruit flavor	Acidity	Body	Bitterness	Sweetness	Balance
1001: Sarchimor (Celica) (4)	3,25	2,25	0,25	0,75	1,5	2,75	2,75	1,25	2	2,5
1041: Typica (Chaguarpamba) (1)	3,5	1,62	0	1	2,5	2,5	2,75	2,25	2	2,5
1048: Typica (Macara) (2)	2,87	3	1,5	0,5	0,75	3	3	0,25	3	3,65
1051: Acawa (Paltas) (1)	3	0,5	0	2,5	1,75	2,25	2,5	2,25	1	1,75
1073: Acawa (Puyango) (4)	3,75	3,12	0	0	1,25	2,62	2,5	0,25	2,5	3,25
1204: Typica (Macara) (2)	3,5	3,5	0	0,5	0,75	3,12	3	0,75	2,5	3,37

Variety	Aroma	Fruity flavor	Floral flavor	Vegetalble flavour	Dried fruit flavor	Acidity	Body	Bitterness	Sweetness	Balance
1235: Caturra (Olmedo) (1)	3	0,75	0	2,5	2,5	2	2,62	2,25	1,5	1,62
1240: Catucai 2SL (Sozoranga) (2)	3,37	3,25	0	0	0,75	3,12	3	0,25	2,25	3,25
1285: Typica (Chaguarpamba) (1)	3	1,5	0,5	0	2,25	2,75	2,75	1,5	2	2,62
1292: Acawa (Puyango) (4)	3,75	3,5	0,25	0,5	0,25	3,5	2,25	0,75	2,75	3,25
1355: Acawa (Espíndola) (2)	2,87	2,75	0	0	2	3	2,75	1,5	2	2,5
1390: Caturra (Chaguarpamba) (1)	2,25	0,75	0	1,25	1,5	2,5	1,75	1,25	2,25	1,25

1400: Typica (Olmedo) (1)	3	1,5	0	1,25	1,25	2,5	2,5	1,25	1,87	2,75

Variety	Aroma	Fruity flavor	Floral flavor	Vegetalble flavour	Dried fruit flavor	Acidity	Body	Bitterness	Sweetness	Balance
1446: Sarchimor (Chaguarpamba) (1)	3	0,75	0,5	1,5	1,75	3	2,25	1,5	2,25	2,62
1482: Typica (Loja) (3)	2,75	0,75	0	1,5	2,25	2,62	2,75	1,5	1,25	2,5
1487: Typica (Quilanga) (2)	3,25	0,75	0	1,25	2,75	2,25	2,75	1,75	1,75	2,5
1495: Caturra (Paltas) (1)	4,25	4,25	0,75	0,75	0,5	3,75	3,5	1	3,25	3,75
1548: Caturra (Olmedo) (1)	4,12	3,25	0,75	0,75	0,75	3,62	3,25	0,25	2,62	3,87
1552: Typica (Sozoranga) (2)	4,5	4	3	0	0	4	3,25	0,25	3,37	4,37
1580: San Salvador (Quilanga) (2)	2,5	2,5	0	0,5	1,25	2,75	3,12	1	2,75	3,12
1593: Typica (Calvas) (2)	2,75	1,5	0	1	2	3	3	1,25	1,5	2,5

Variety	Aroma	Fruity flavor	Floral flavor	Vegetalble flavour	Dried fruit flavor	Acidity	Body	Bitterness	Sweetness	Balance
1600: Typic (Loja) (3)	4,75	3,5	3	0	0	4,25	3,75	0,25	3,75	3,37
1656: Catucai 2SL (Espíndola) (2)	4	4	1,25	0	0,75	4	3,75	0	4	4,5
1695: Bourbon (Quilanga) (2)	4,25	3,5	3,5	0	0,25	3,5	3,75	0,25	3,75	4,12
1711: Improved Typica (Gonzanama) (2)	4,75	4,25	2,25	0	0	4,25	3,75	0	3	4,5
1721: Caturra (Olmedo) (1)	3,5	2,25	0,25	0	2,37	3,12	2,25	1,25	2,75	3,25
1770: Sarchimor (Espíndola) (2)	3,62	2,62	0	0	1,25	3	2,75	0,75	2,75	3,12
1773: Typica (Loja) (3)	3,5	4	1	0	0	3,5	3,25	0	3,5	4,25

Variety	Aroma	Fruity flavor	Floral flavor	Vegetalble flavour	Dried fruit flavor	Acidity	Body	Bitterness	Sweetness	Balance
1833: Typica (Espíndola) (2)	3	0	0	2,75	2,75	2,75	2,5	1,5	2,5	2,75
1916: Typica (Espíndola) (2)	2,75	2	0	0,87	2	3	2,5	1,75	2,62	2,87

1938: Typica (Calvas) (2)	3,5	2,5	1	0	1	3	3,75	0,25	2,25	2,87
2006: Caturra (Espíndola) (2)	4	3,62	3	0	0,5	4,25	4	0	3,75	4,62
2022: Catucai 785 (Espíndola) (2)	5	4,5	2	0	0,5	4	4	0	3,75	5
2107: Caturra (Gonzanamá) (2)	3,62	3,5	0	0	2	3,25	3,12	0,75	2,75	3,12

The different organoleptic profiles dependant on the altitude, soil quality and microclimates of where in the province of Loja the coffee is grown contribute to the overall flavour, aroma, and quality of Café Lojano De Origin.

6.1.3 Human factors: Agronomic practices for harvesting, postharvest and storage.

The province of Loja is located in southern Ecuador, where the Andes Mountains have their lowest altitudinal distribution. This place has a very particular physiography that includes dry valleys, cloud forests, paramos and Amazonian forests. In the production zones there are coffee varieties that have adapted well to the altitude, climate and soil. Climatic conditions and the tradition of producing coffee in these agroforestry systems, good harvest and post-harvest practices have given the coffee predominant distinctive characteristics that have been identified by a team of international tasters with Qgrader certification as: "Balanced coffees, with fruity aromas, with sweet flavours of red fruits and panela, citric acidity, medium body, creamy, clean and with a long aftertaste".

In the province of Loja, Arabica coffee is grown together with fruit trees, forest trees, short cycle plants, even medicinal and forage plants, this production system is known as the traditional "Loja orchard". According to historian Galo Ramón (2018) this type of orchard was an ancestral technique of the "paltas" (pre-Inca people that inhabited this region) to obtain a diversified production and to be able to conserve the humidity and fertility of the soil through multiple associations. Coffee was introduced into this diversified system. This production technique has been transmitted from generation to generation in the coffee growing families of Loja and is still preserved today.

The cultivation of coffee in Loja has been an activity that has been transmitted from parents to children; coffee growers living on their small farms have generated an essentially family vocation to produce coffee. The family is in charge of the

cultivation, harvest and post-harvest, guaranteeing a special commitment with the product that leaves the farm, consolidating little by little the culture of quality coffee that today is developed in the different producing cantons.

. Inspection body

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8. Labelling

N.A.

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