

Protected food, drink or agricultural product name

Product specification for CAFÉ VILLA RICA

A protected designation of origin (PDO)

Responsible country: Peru

This document sets out the elements of the product specification for information purposes.

Competent authority

The National Institute for the Defense of Competition and Protection of Intellectual Property (INDECOPI) is the Peruvian authority in charge of running the scheme of the appellations of origin and geographical indications.

Name: National Institute for the Defense of Competition and Protection of Intellectual Property (INDECOPI)

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Applicant group

Name: The Café Villa Rica's application was submitted by Municipalidad Distrital de Villa Rica and Asociación Gremio Agroforestal Cafetalero Villarica – GRAFCA VILLA RICA, both from Peru. However, it must be noted that according to the Peruvian legislation, the Peruvian State is the exclusive owner of the Peruvian appellations of origin or geographical indications.

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

Other products listed in Annex1 to the treaty(spices etc) Class1.8

1. Product name(s)

Café Villa Rica

2. Description

The product is characterized by being a product that has low average values of lipids, proteins, fiber and ash. It has a high content of carbohydrates. These particularities are what explain that CAFÉ VILLA RICA is a balanced coffee, medium-bodied, pleasant aroma, with appropriate acidity and particular sweetness.

In relation to the morphological characters of the green bean of CAFÉ VILLA RICA, it has been determined that the dimensions of the bean should be between 0.919 cm to 1.122 cm in length; the diameter between 0.67 cm to 0.751 cm; and the thickness between 0.36 cm to 0.441 cm. On the other hand, the weight of a green coffee bean should be between 0.156 g to 0.244 g.

The composition of CAFÉ VILLA RICA must be between the following ranges:

- Lipids from 5.66% to 7.30%;
- Proteins from 10.68% to 12.70%;
- Fiber from 14.32% to 17.71%;
- Ash from 2.89% to 3.53%; and
- Carbohydrates from 65.91% to 69.33%.

This set of components is strongly related to its quality characteristics during the cup tests, where this coffee, according to the attached technical file, showed to be well balanced and with a sweet and acid tendency, which is explained by its content of carbohydrates, mainly sugars.

Green bean granulometry: Net graduation above 15.

The humidity ranges for green beans are: 10 - 12% humidity.

The characteristics of colour and odour that the green bean must present are: homogeneous colour and fresh odour.

3. Geographical area

The geographical area delimited for cultivation and production comprises the territorial scope detailed below:

a) North: San Matías San Carlos Protection Forest and Sho'ilet Conservation Area Municipal Forest.

Reference:

1. Mouth of Muerayos ravine to Pescado ravine.

2. Mouth of Machabocaz ravine.
3. Mouth of Machabocaz.
4. Mouth of Pescado ravine to Bocaz river.
5. Bocaz River.

b) North-East: Adjacent to the San Matías San Carlos Protection Forest.

Reference:

1. Cacazu River.
2. Mouth of the nameless ravine to the Cacazu river.
3. Limit of San Matías San Carlos Forest and Villa Rica District.

c) East: San Matías San Carlos Forest, Junín region and Puerto Bermúdez district.

Reference:

1. Up to the San Matías San Carlos Forest.
2. Ubiriki and Cumbre highway.

d) South: Junín region - Paucartambo river, Entaz river. Reference:

1. Eneñas Alto Yurinaki highway - Villa María Community.
2. Summit.
3. Entaz river.
4. Up to the Mouth of Paucartambo river.
5. Mouth of Río Sal ravine.
6. Paucartambo river and Cerro Ñagazu Nascent.

e) West: Oxapampa province and Sho'llet Conservation Area Municipal Forest.

Reference:

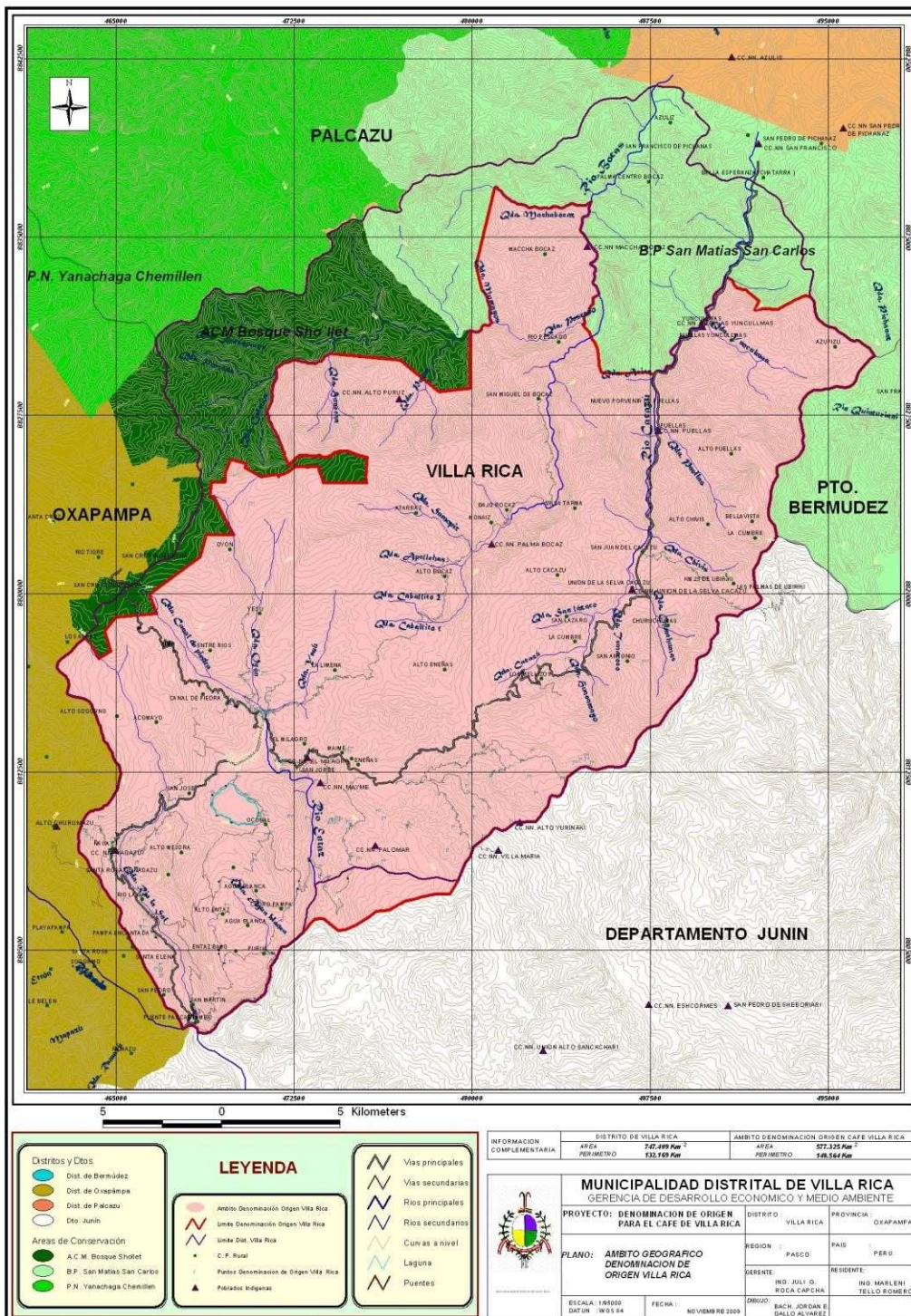
1. Ñagazu Summit, Churumazu highway.
2. Start of the Sho'llet Conservation Area Municipal Forest.
3. Nascent Río Sal ravine.
4. Villa El Abra highway.
5. Canal de Piedra ravine.
6. Ayón ravine.

f) North-West: Sho'llet Conservation Area Municipal Forest.

Reference:

1. Nascent Ayón ravine.
2. Sho'llet Conservation Area Municipal Forest.
3. Coñeros Union ravine with the Sho'llet Conservation Area Municipal Forest.

It is cultivated at an altitude between 1 000 and 2 000 metres above sea level.



Map. Area of the production zone of the Appellation of Origin Café Villa Rica.

4. Proof of origin

In the production of CAFÉ VILLA RICA, the cultivation practices and techniques included in the resolution that declares the protection of the appellation of origin CAFÉ VILLA RICA will be oriented towards the continuous improvement of the quality of the products, in accordance with the demands and trends from the market.

For this purpose, inspection visits to coffee producers and processing plants may be carried out annually or with the periodicity deemed convenient, in order to guarantee compliance with the practices described in the previous paragraph.

Indeed, all products identified with the appellation of origin CAFÉ VILLA RICA to be exported or destined for the national market, may go through a certification process that may result in the following:

- a) Certification
- b) Disqualification
- c) Remedy, which will result in one of the aforementioned.

The certified products must maintain the characteristics established in Resolution N° 127842010/DSD-INDECOPI. Any lot that for any reason presents beans with defects or sensitive alterations or that in whose pre-harvest, harvest or post-harvest process has failed to comply with the manuals and directives that have been or will be prepared for the control and supervision of the protected appellation of origin, will be disqualified.

The disqualification of a lot prevents the use of the appellation of origin in relation to said lot. Likewise, any lot that contains a mixture with another previously disqualified lot will be disqualified. The disqualification of the products may be carried out due to non-compliance with requirements at any stage of production, processing, storage, packaging or marketing. In no case may a disqualified lot be presented for certification again.

The lots that can be corrected are those in which non-sensitive anomalies or defects are detected. In this case, the authority will notify the person responsible for the lot to remedy the deficiencies within 5 business days, counted from the business day following notification of the request for correction. If the aforementioned deficiencies have not been corrected within said period, they will be disqualified.

For the administration of the appellation of origin CAFÉ VILLA RICA, the following records will be kept:

- Record of producers and property
- Record of wet processing plants
- Record of dry or threshed benefit plants
- Record of suppliers of supplies and services
- Record of certified coffee lots with the protected appellation of origin

The registration requests will be made in the formats provided by the Regulatory Council accompanied by the data, documents and receipts that, in each case, are required by the current provisions. - Applications for registration that do not meet the requirements established in the Regulations of Use of the appellation of origin will not be accepted.

5. Method of production

The cultivation practices and techniques currently used by coffee growers are the following:

A) Seedbeds and seedlings

In Villa Rica there is adequate genetic material for the production of coffee seedlings, exotic and native trees.

Seed collection:

Seed collection is in charge of the owners and personnel trained by the organizations; taking place in the months of May to July; and taking into consideration the following procedure:

- Identification of lots.
- Identification of mother plants with desirable characteristics; high performance, resistant to pests and diseases.
- Harvest ripe cherry from the central part of the plant and branch during full harvest.
- Cherries are pulped using a manual drum or disk pulping machine.
- Fermented for 12 - 36 hours according to the altitude and temperature of the place.
- Once the grains are fermented, they are washed where they are selected by the float test, eliminating the brocade and vain seeds.
- Aired under shade until obtaining 18% to 25% moisture from the seed.
- As a final selection, the seeds are classified according to their shape and size, discarding the elephant, snail, giant, triangle, bitten, broken and small grains.
- The seeds are stored in dry and ventilated places and free of pollutants for a maximum period of six months.

Germinators:

They are installed from May to September taking into consideration the following procedure:

Germinators are built of 1m wide, 1m long, 20cm deep.

- It is considered that for 1m² germinator must contain 1 kilogram of seed.
- The main substrate is washed river sand and properly sifted virgin forest agricultural land.
- The substrate is disinfected according to the type of organic or sustainable production being the treatment with boiled water in a proportion of 10 litres per m², bleach 8 units per 15 litres of water and nematicide at 2.5% respectively.
- The seeds are watered by broadcast and the seed is covered with a layer of substrate (sand) being twice the thickness of the seed and the germinator is covered with jute bags or leaves to conserve the humidity of the seed.
- It is watered in the morning or in the afternoon whenever it is necessary to maintain the humidity.
- Once the seedlings have emerged between the 40 to 45 days the cover is removed (jute bag or leaves) and a shed of 1.5m tall to protect the seedlings.
- After the 60 to 70 days from the emergence of the seedlings, being in the phosphorus head state, they are ready to be transferred to the nursery.

Nursery:

- They are installed in the months of July to November considering the following:
- A shed is built of 1.80 m high to regulate the entry of light with 40% shade and 60% light.

- The substrate consists of 70% agricultural land, 10% sand, 20% organic substance.
- In addition to the substrate, additional elements such as compost, and sources of Phosphorus, Magnesium, Calcium and Sulfur are added, where it is mixed uniformly and left to rest for a period of 15 days.
- Bag size and bucket, the decision is made by the producer according to the time that is planned for the plant to remain in the nursery.
- Filling and accommodating bags or buckets: It consists of filling the bags or buckets with prepared substrate and placing them on the peeling beds.
- To perform the peeling, a new selection is made by the shape of the roots, discarding the twisted, forked, atrophied roots and the presence of diseases and pests.
- The peeling consists of making a hole in the centre of the bag or bucket with a peeling stick, then the seedling is introduced and, aided by the vertically introduced peeling stick, light pressure is applied towards the sides of the seedling.

Nursery management:

- Irrigation: it is done in the morning and afternoon keeping the humidity at field capacity. Weeding is done monthly.
- The application of foliar fertilizer and prevention of pests and diseases is carried out at intervals of 20 days.

Shadow management:

It consists of regulating the entry of light, at the beginning 60% of light enters, the second month the shadow is regulated so that in the fourth month the nursery is exposed to 100% of light until its transfer to the final field.

B) Coffee establishment:

It is carried out between the months of October to March, under the following detail:

- Choice and cleaning of the land: It consists of identifying the place where the plantation will be installed. The first activity they carry out is the elimination of weeds.
- Plantation spacing and density: The distances used are 1.80 m of street x 1.20 m of floor or 2.0 m of street x 1.0 m of floor and are aligned against the slope, depending on the location, slope, and variety.
- Hole opening: The dimensions of the holes vary according to the texture, drainage, and fertility of the soil, it is done with a well or right shovel, a minimum dimension of 30x30x30 cm is dug.

Coffee transplant:

Nursery plants with a minimum of 5 pairs of true leaves are selected. Twisted, yellow, malformed plants or plants attacked by pests and diseases, are eliminated.

With the help of a hoe, the hole is filled with soil from the first layer and fertilizers or fertilizers such as compost, Phosphorus, Magnesium and Calcium sources, are added.

The bag or bucket is removed and placed in the center of the hole, taking care that the root is vertical and straight for good root development. It is filled with soil up to the level of the neck of the plant. Tamp down the sides well to avoid air pockets around the plant. The plants will be managed like the rest of the plants, hoping that they will be able to produce in the second year or so. During plant development, weeding, pest and disease control, compost or fertilization, are carried out.

Shade tree installation:

The coffee plantations managed in the area of Villa Rica are under the shade of native and exotic trees, Inga sp. species predominate, and are installed at a distance of 5x5m, 6x6m to 10x10m.

C) Crop cultural tasks:

Weeding: It consists of eliminating weeds using a chamfer (machete), this activity is carried out from 2 to 6 depending on the type of weed, soil humidity and the shade of the coffee plantation. The important weeds are grasses and creepers.

Control of pests and diseases:

Nematodes and insects:

- Nematodes (*Meloidogyne* sp) They attack the roots of the coffee producing deformations in the form of galls or irregular modulations.
- Drill Bit (*Hypothenemus hampei*) They attack coffee fruits, the female CBB is a borer weevil that penetrates the navel of the cherry trees, upon reaching the almond they deposit their eggs. The cherry trees attacked by the drill bit float at the moment of being deposited in the reception tanks.
- Leaf Miner (*Leucoptera coffeella*) It is a moth that lays its eggs in the upper part of the leaf, the larvae penetrate the leaves and then settle on the underside.

Diseases:

- Chicken eye (*Mycena citricolor*): Attacks leaves, branches, stems and fruits.
- Cercospora (*Cercospora coffeicola*): It affects leaves and fruits in the form of circular spots. □ Phoma (*Phoma* sp): Attacks young leaves, flowers and fruits, on the injured side the appearance of sprouts in the form of rosettes.
- Rust (*Hemileia vastatrix*): It occurs in the form of pustules on the leaves causing the defoliation of the plant.
- Botrytis (*Botrytis cinerea*): Attacks flowers and fruits.
- Spider (*Pellicularia koleroga*). It affects leaves, branches, fruits.
- Blackfoot (*Rosellinia bunodes*). It attacks the roots of the plants by localized foci, within the plantation.

For the control of diseases and pests, integrated management is carried out that consists of shade regulation, pruning and elimination of diseased plants, drainage, weeding and compost or fertilization.

Composting or fertilization:

Composting or fertilization is carried out 2 to 3 times a year according to the seasonal cycle of the plant.

Those who perform 3 applications:

First application: At the beginning of flowering. Second application: When filling the grain. Third application: In ripening. Those who perform 2 applications First application: To the development of the fruit. Second application: In ripening.

Sprout pruning and management:

Pruning is done in order to remove dead non-productive stems and branches. Stimulate the formation of new productive structures. Maintain the balance between the production of stems, flowers, and fruits to increase the harvest. Maintain a wide-open aerial leaf structure (a very dense leaf structure favors the development of diseases and pests and inhibits flowering). Recover and normalize the harvest, improve grain quality, and facilitate harvesting. Allow the entry of light and aeration within the structure of the plant. Pruning time is after harvest; time that coincides with the "Rest" stage (in our conditions it is July - August). The tools used are the pruning saw and the pruning shears. They make an inclined cut. Leaf branch residues are chopped and well distributed in the field to protect the soil from erosion and prevent weed growth.

After pruning, the following activities are carried out:

- Suckling: It consists of the selection of suckers, 2 suckers (shoots) are left.
- Composting or fertilization.

Shadow management:

In Villa Rica, producers manage their coffee parcels associated with native and exotic forest species (agroforestry system) with the aim of preserving the diversity of flora and fauna.

D) Coffee processing:

Activities before harvest (pre-harvest): They are a set of activities carried out to prepare the harvest and are the following:

- Weeding the coffee plantation.
- Preparation of collection baskets and hooks.
- Cleaning and patching of reception tanks and fermenters, harvesting nets.
- Review of channels and water sources.
- Inspection, maintenance, and cleaning of pulpers, washers and dryers

Harvest:

It consists of collecting ripe cherry trees (red or yellow fruits). For the harvest, a woven liana basket or plastic basket is used that is held at the waist and to pull the plant a hook made of coffee stems is used. At harvest, the workers select the leaves, branches and green fruits and the ripe cherry trees are deposited in polyethylene bags to be transported to the wet processing plant. The beginning of the harvest is called the "Rebusca" of the first ripe fruits where small, diseased and brocades grains, among others, are collected, which serves to obtain better performance and quality in the following harvests. As for the full harvest, the second, third and fourth pass, consists of harvesting ripe fruits. At the end of the harvest the "scrape" is carried out where ripe and green fruits are collected that have to be selected before entering the pulping. This activity is to avoid the pest problem (coffee drill). For the harvest, permanent or temporary personnel are required and in most of the farms the whole family is involved. In the harvest months, the owners of the coffee plantations go in search of labor or, for the most part, the workers migrate on their own initiative due to the abundant labor that exists in Villa Rica generated by coffee growing.

Post-harvest:

It includes reception, pulping, fermentation, washing, drying and storage.

Reception:

In the wet processing plants, farmers record the entry of cherry, for which they use cans (contains 13 kg cherry coffee) and / or scale to measure. The cherries are deposited in tanks and / or siphon, water is used to transport the cherries to the pulper, the size depends on the economic conditions of the producer and the cultivated area

Pulping:

It consists of separating the husk or pulp of the coffee fruits by means of a machine with electric power or fuel (pulper of discs or drum) to obtain the "parchment grain". Pulping is carried out on the day of harvest. At this stage there is a selection of the shell and the grain; the coffee shell is transported by pipes or by hand to the pulp store area. The pulp (shell) is the by-product that is generated from pulping and is between 40% - 50% of the volume of the cherry, which is used to produce compost. Compost is an organic substance resulting from the decomposition of plant remains (pulp or shell), the organic fertilizer generated is used by all the producers in their plots.

Fermentation:

It is the process by which the pulped coffee is allowed to ferment for a period of 10 to 32 hours. The difference in fermentation hours depends on the temperature of the place, mass volume (number of fruits), altitude of the place and humidity of the environment. In high areas the fermentation time will be longer and in low areas it will be shorter. In fermentation, the following must be considered: The pulped grains are deposited in clean wooden and / or concrete tanks. Take care that no water enters during fermentation. To determine when to stop the fermentation, the fermentation test is carried out, which consists of taking a handful of coffee and rubbing with the hand if it produces a gravel sound, it is ready to be washed; or a handful of coffee is washed if the mucilage comes out. Most homeowners determine by experience when the coffee is ready to wash off.

Washing:

It is the process by which the mucilage from the coffee grain is cleaned with water, which is renewed as the mucilage comes out. The water used to wash the coffee is clean from a spring, a water hole or a stream channeled through pipes to the reservoirs. The washing is done manually in wooden or cement tanks using a wooden pallet and automatic with motor washers that run on electricity or fuel, in this process the grains are selected. Regarding the unfermented de-mucilagination, it should be noted that there are producers who ignore the traditional fermentation process, for which they use the de-mucilaginators that consist of a pulper, sieve and washing machine (complete module) that separates, selects the grain by size and removes the mucilage from grain friction. When the de-mucilaginators are used, the drying process must be done immediately so as not to spoil the quality of the coffee. From the washing, the by-product remains, which is the honey water generated from the fermented grain washing process, it contains a high load of organic substances and with pH values close to 4, that is, acidic. If they are allowed to enter waterways untreated, then they contaminate them and affect the organisms that live in them. To treat these waters, they are channelled to sedimentation ponds or lagoons. Systems of 2, 3 and 4 pools are managed through which the water must circulate, after treatment with lime to neutralize the acidity of the water. In this way, in the last step, the waters are discharged with a pH between 5.5 to 6. From reception to washing, the cherry and parchment are selected depending on the cultivated area and the economic capacity of the producer.

Drying:

The humidity of the coffee grain is reduced. For this, the producers dry their coffee naturally or artificially depending on the cultivated area and economic capacity of the producer. Natural

drying: It consists of exposing the coffee grains to the sun, using stretchers, pallets, greenhouse-type solar extractors, clean cement nets. Depends on the economic conditions of the producers, the drying hours vary according to the hours of sunshine. Artificial drying: Automatic dryers of the pool, vertical and guard type are used where the temperature is controlled with a thermostat and a thermometer that regulates the temperature between 40 to 60 °C and coffee dries in the range of 36 - 48 hours.

Coffee humidity ranges:

50% or more moisture is wet coffee.

43 - 49% moisture is wet coffee or nickel.

35-42% moisture is aerated coffee.

10 -12% humidity dry parchment coffee.

Storage:

The processed coffee is placed in well-cooked jute and / or polyethylene bags to be stored in ventilated and illuminated warehouses. The bags are stacked on wooden decking (pallets) so that they do not come into contact with the ground.

Dry processing (Threshed):

It is the phase of washed coffees where they transform from parchment coffee to green coffee. Dry processing consists of removing the shell (endocarp) or parchment from the coffee by threshing it to obtain green coffee, then they are classified into coffee and finally the best grains are selected.

The timber species associated with coffee are shown below:

COMMON NAME	SCIENTIFIC NAME
Anona de monte	<i>Cordia alliodora</i>
Cedro	<i>Cedrela sp</i>
Requia	<i>Guarea sp</i>
Pacae	<i>Inga sp</i>
Matapalo	<i>Ficus sp</i>
Shimbillos	<i>Inga sp</i>
Oropel	<i>Erythrin sp</i>
Huampo	<i>Ochroma lagopus</i>
Moena	<i>Nectandra sp, ocotea sp, Aniba sp</i>
Ulcumano	<i>Pdocarpus rospigliosi</i>
Cetico	<i>Cecropia sp</i>
Almendra	<i>Cariocar sp</i>
Palo algodón	<i>NN</i>
Pino	<i>Pinus tecunumani, P. ocarpa</i>
Eucalipto	<i>Eucalyptus saligna, E. grandis</i>
Paraíso o Cedrillo	<i>Melia sp</i>
Pino Chincho	<i>Schizolobium amazonicum</i>
Sangre de Grado	<i>Croton sp</i>
Atadijo o Vasalla	<i>Trema sp</i>
Nogal	<i>Netropic Junglans</i>

Elaboration: Technical Team Project Appellation of origin for CAFÉ VILLA RICA.

In the case of palm trees associated with coffee, see the following table:

COMMON NAME	SCIENTIFIC NAME
Chonta	<i>Astrocoryum chonta</i>
Umiro	<i>Sheelea cephaloles</i>
Palma Real	<i>Rystonia regia</i>
Yarina	<i>Yarina crocarpa</i>

Source: *Manual for the production of special coffees Villa Rica - Oxapampa.*

6. Link with the geographical area

An analysis was carried out at the genetic level of the coffee samples, determining their low genetic variability. This means that, if the coffee samples analyzed have high genetic uniformity, many of the qualities it exhibits when it is processed for cup consumption are due to the contribution of other factors that influence the physiology of the plant. These factors are related to the geographical component, the climate where it is grown, the types of soil, the water sources that serve to mobilize nutrients from the soil to the plant, the management of the crop by the coffee growers and the post-harvest labor that culminates in obtaining the green or gold grain, which after being roasted and ground must be tasted to appreciate the full potential of coffee from a geographical area. For this reason, the Villa Rica area seems to contribute with those environmental factors that allow the coffee to accumulate or express their quality potential. Regarding the soil component, according to the EC average of 0.55 dS/m, Villa Rica has non-saline soils, of medium fertility, with very acid characteristics (5.09 ± 0.9). Organic substance is present in a medium category, although it is strongly driven to increase by the promotion and development of compost bins on farms, which use their waste from fruit processing to produce compost. Nitrogen levels are high, while phosphorus levels are medium, due to the fact that these are soils that contain aluminum. However, Villa Rica has been promoting the development of special shade trees, which also present symbiotic interactions of the mycorrhizal type, which favor the availability of assimilable phosphorus by the plant. The texture of the soils in Villa Rica that predominates is of the loam type, appropriate for growing coffee. In physiological terms, it is known that coffee plants respond better in soils with acidic pHs, with the optimal range being 4.5 to 5.5. pH. Therefore, it is concluded that the soils of Villa Rica have an optimal level of acidity for growing coffee. Regarding the contribution of the climate, the Villa Rica zone is comprised between the ecological formations Very Humid Sub-Tropical Forest (bmh-ST) and Humid Sub-Tropical Forest (bh-ST) according to ONERN 1970. The climate is humid and semi-warm with an eventually dry winter season and somewhat cold minimum temperatures, and with an average annual rainfall of around 1,500 millimeters. Villa Rica differs from other coffee-growing areas in the particular behavior of two-time variables: maximum temperature and relative humidity; the annual minimum temperature is 15.39 °C and the annual maximum temperature is 22.63 °C. As for the differences between the maximum and minimum temperatures throughout the year, it ranges between 3 °C and 10 °C, corresponding to lower thermal gradients compared to other spaces such as Quillabamba. Monthly precipitation reaches minimum values of 17.45 millimeters in June and maximum values in February that exceed 200 millimeters. The accumulated precipitation varied between 1365.19 millimeters and 1477.1 millimeters, behaving uniform throughout the 3 years evaluated. Relative humidity throughout the year varied between 90% and 94% with an average of 92.98%, resulting in the most humid coffee growing area. Other variables also

influence the climate of Villa Rica, including the vegetation cover of the area, made up of species that serve as shade (native and exotic trees), which help regulate the humidity patterns and thermal variation of the environment. Therefore, the importance of maintaining the vegetation cover and proper soil management, which reflect the high productivity that Villa Rica reaches. These climate factors can allow favorable conditions to be created for an appropriate evapotranspiration of the coffee trees, which allow a mobilization of nutrients from the soil to the plant, which translates into a distribution activity of photosynthates that are what determine the particularities of this coffee. It should be noted that the photosynthetic area in the coffee trees of Villa Rica is much greater and this correlates with the higher carbohydrate content that it shows in the bromatological studies and that, in turn, is related to the flavor characters of the coffee in the cup tests. Regarding the morphological characterization of leaves and coffee grains, samples were obtained from different places, noticing differences in some variables such as the size of the leaves, which were larger on average in the samples from Villa Rica, compared to those from other areas such as La Merced and Cusco. This means that the coffee trees of Villa Rica probably develop greater photosynthetic activity and therefore greater production of sugars and other carbohydrates that will end up accumulating in the cotyledons of the grains and that will be expressed in quality variables of the coffee during roasting and tasting. In relation to the bromatological variables, there is statistical evidence that confirms that green coffee grains from Villa Rica have average values in the content of lipids, proteins, fibre and ash that differentiate them from coffee grains from other coffee growing places. The composition of the green coffee grains must be between the following ranges:

Lipids from 5.66% to 7.30%;

Proteins from 10.68% to 12.70%;

Fibre from 14.32% to 17.71%;

Ash from 2.89% to 3.53%;

Carbohydrates from 65.91% to 69.33%.

These peculiarities are what explain why the coffee from Villa Rica behaves in the cup as a balanced coffee, with a medium body, pleasant aroma, appropriate acidity and particular sweetness. In relation to the physical yield of milled coffee, the studies showed an average yield of 415.8 grams (83.2%) in samples of 500 grams, of which the milled coffee of exportable quality reaches an average of 400.5 grams (80.1%) of yield, corroborating the yield figures for coffee in the area that are managed and that are above the national average. The meshes greater than 15, which are the ones accepted for export, represented more than 91.9%. The Peruvian Technical Standard NTP209.027 establishes that grade 1 green coffee must have a minimum granulometry of 50% above the 15 mesh. In the sensory and cup tests, Villa Rica coffee reaches scores that exceed values of 75, which shows that it is a coffee of good quality, fragrance, aroma, flavour, aftertaste, acidity, body, balance and general appreciation of high average values (above 7 points), with a high scoring uniformity, clean cup and sweetness. Finally, regarding the colour and smell characteristics, the parchment coffee samples from Villa Rica fit into the category of homogeneous colour and fresh smell, which means that it contains green beans of very good quality for export.

The producers of CAFÉ VILLA RICA have the necessary skills and experience to carry out the entire production process that is required to produce the product in the area in question. This implies having the know-how to be able to select and properly collect the seeds, install, and manage the germinators and nurseries, determine the spacing and density of the plantation, as well as the transplantation of coffee and the installation of shade trees. Likewise, growers are experts in weeding, pest, and disease control, manuring and fertilization, pruning and

sprouting management, as well as in the final stages of harvest and post-harvest. For example, it is important to highlight the shade management practices carried out by the producers (related to the vegetation cover of the area), which play a very important role in the humidity levels, since they manage to maintain uniform levels of humidity throughout the year. Likewise, good agricultural practices have allowed the incorporation of technological advances that improve the quality and productivity of coffee, including the management of soils, crops, etc., with an important effort by the producers to receive training, which influences on the physical performance and the average yield of quintals per hectare.

7. Inspection body

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8. Labelling

Peruvian Metrological Standard NMP 001: 2019 "Requirements for the labelling of pre-packages" - 5th edition, as applicable.