



Locality: São Gonçalo do Sapucaí

Data: 22/03/2024

Coffee Farmer: Nilo Vilela Reis

CHAMUSCA ESTATE

VISIT REPORT

Carmo da Cachoeira is a Brazilian municipality in the state of Minas Gerais located in the immediate geographic region of Três Corações. Its total area is 505.947 km², with an average altitude of 1020 meters. Its terrain is predominantly hilly to mountainous, with a mild climate practically throughout the year. Its coffee plantation covers 13377 hectares, with an average annual production of 378000 sacks, which highlights the region, with an average productivity of 28 sacks/hectare.

The property covers 62 hectares, with 36 hectares dedicated to coffee production, and is located at an altitude above 1200 meters. Typically, the producer works alone, only bringing in external labor during the coffee harvest season. The property is equipped with various post-harvest equipment: a covered drying patio for special coffee lots, coffee dryers, chests, rotary separators, warehouses, a roasting laboratory, and a processing machine.

Currently, the producer uses biological products on the property, aiming to contribute to the balance of the agricultural system, increasing the preservation of insects of interest such as natural enemies of pests and bees - which are currently threatened in various regions of the planet.

Below are the points to be observed and actions to be taken:

1. ENVIRONMENTAL PILLAR

- **Forest Reserve and APPs:** Although the Brazilian Forest Code exempts properties below 4 fiscal modules from having reserved forests, it is important for coffee growers to be aware of the importance of this preservation. Therefore, we recommend that new coffee areas not be established on hilltops or APPs, and that areas currently exploited or acquired in the future be transformed into forest reserves. It is also important to always maintain the protection of springs by planting more trees near their water infiltration areas and fencing to prevent entry of people and animals.
- **Use of Windbreaks:** Although there are trees nearby, it is advisable that windbreaks be planted during coffee crop renewals; This measure promotes the reduction of wind impact on coffee plant leaves; Reduction of hail impact; Reduction of fungal diseases, which have higher infestation rates due to leaf injuries; Increase in the producer's revenue with the intercropping between coffee and crops such as avocado and banana. These two fruit trees are excellent windbreaks, already used.
- **Use of Organomineral Fertilizers:** Although the return of coffee husks to the plantation is recommended, we suggest adopting the use of organomineral fertilizers, which promote



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greater sustainability in agricultural production, as their use reduces the use of chemical fertilizers by up to 30%. They also contribute to carbon replacement, with a cumulative effect over the years where the farmer adds this carbon to the soil, which also improves fertility levels and the presence of beneficial microorganisms.

- **Pesticide Storage:** Expansion of the storage or construction of a new one, ensuring space compatible with the maximum volume of products to be stored and allowing the circulation of people; Implement a ventilation system that guarantees the renewal of indoor air, through natural, mechanical, forced, or mixed means, according to legal requirements; Ensure good lighting in the environment that allows easy reading of labels and product identification; Installation of an emergency shower and eye wash station near the pesticide storage area, so that operators have easy access; but ensuring that the splashes do not reach the stock; Pesticide packaging should be stored at least 50 cm away from walls; Solid products are positioned higher than liquid/pasty products; In the storage area, maintain a set of equipment and materials in sufficient quantity to handle product spills (absorbent materials such as sawdust, etc.); Products unsuitable for use (expired, banned by inspection, damaged packaging, etc.) will be stored in a specific and separate location, to be returned to the respective manufacturers, with due notice to the competent authority.
- **Waste Separation:** Correct separation of waste makes all the difference in environmental preservation, as it prevents many recyclable materials from ending up in landfills or dumps. Some wastes generated in households are considered hazardous and for this reason should not be mixed with others. As a tip, we recommend starting by separating organic waste from dry (recyclable) waste and then implementing separation by material types.
- **Photovoltaic Energy:** Study the implementation of an energy production plant. It is important to note that solar energy has several advantages: environmentally, as it is a renewable energy source, does not pollute, and has a lifespan of approximately 25 years. Economically, it reduces the electricity bill by 90%, bringing a return on investment of around 5 years and requiring minimal maintenance.

2. SOCIAL PILLAR

- **Sanitary and Comfort Conditions in Rural Work:** Despite the proximity of the crops to the headquarters, it is essential to have structures easily accessible to employees, providing potable water, so that they can have their meals, rest, and also for personal hygiene care (bathrooms). Such areas are of utmost importance for the well-being and comfort of workers.



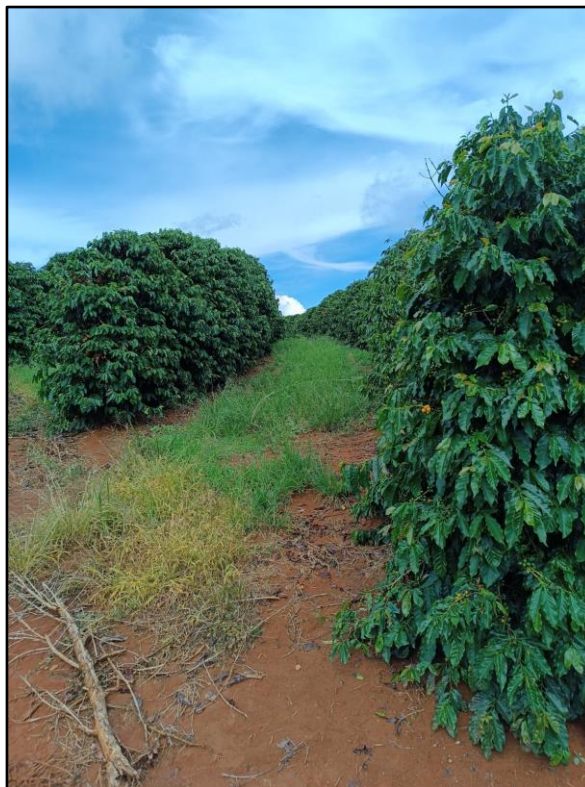
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- **Training:** Continuously train employees, enabling them to master current technology and manage their own work, so that they achieve the desired productivity and remain in work/employment. Training contributes not only to personal and professional fulfillment of the worker but also favors the improvement of quality of life and the full exercise of their daily activities, with economic and social gains.

In conclusion, among the various attributes required in the sustainability report, we can consider it very satisfactory, but it is always necessary to pay attention to and adapt to the constant changes in the technical, environmental, and social aspects of agriculture in our country. Below are some images that evidence our visit and fulfilled attributes.

Biodiversity and Conservation & Soil and Nutrient Management





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Crop protection





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Post-harvest structures





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