

The influence of microorganism succession at different coffee drying stages in beverage quality

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Objectives

To analyze the influence of:

- Microorganisms (fungal infection, total and lactic acid bacteria counts);
- Climatic conditions at different drying times;
- Correlate these factors with the sensorial characteristics of the beverage.

Methods

Three types of coffee preparation were analyzed:

- Pulped natural coffee
- Mature cherry
- Natural coffee (dried cherry)

Fungal infection, lactic acid and total bacteria counts were performed according to Pitt & Hocking (2009) and Silva et al. (2017).

Coffee samples were evaluated in two different tasting tests: infusion and *espresso* as described in Iamanaka et al. (2014).

Conclusions & Perspectives

The drying time is a critical factor, as in this period several microorganisms can grow, produce metabolites that interact with coffee, affecting its quality and sensory characteristics.

References:

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Results

- Pulped natural coffee showed the highest fungal diversity and low infection with positive beverage attributes.
- The natural coffee had the highest fungal infection (22%) mainly by *Fusarium* spp., some samples beverage showed positive attributes and others negative (slightly fermented).
- The mature cherry had the lowest fungal infection (2.5%) and the worst beverage quality (strong fermentation).

During the period of drying yard, the whole fruit with sugar pulp and high water content was exposed to the sun for a long period favoring bacteria and yeast actions, causing possible lactic, alcoholic or acetic acid fermentation and harmful metabolites to taste, such as acetic acid (vinegar) and ethyl ester derivatives.

