

C5**Changes in Chemical Composition and Quality of Coffee in Function of Different Post-Harvest Operations.**

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Rationale

The storage is one of the most important steps of the post-harvest coffee, aiming to maintain the quality. However, several factors can promote changes in quality of coffee along the storage, such as air conditions of storage and the form of storage of grains. Thus, this study aimed to verify the effect of processing, storage temperature and coffee processing on the quality of coffee along the storage.

Methods

Coffee fruits were harvested at the stage of ripening cherries and either processed dry (natural coffee) or wet (pulped coffee) being dried in mechanical driers until they reached 11% water content. After drying, part of the coffee was processed either manually or mechanically and another part was held without processing along the storage. The storage conditions were: storage under controlled conditions of air conditioning (10°C and 50% relative humidity) and in ambient conditions at 25°C without relative humidity control. The coffees were evaluated at 0, 4, 8 and 12 months of storage, through sensory evaluation and tests of electric conductivity (EC), leaching of potassium (LK), total titratable acidity (ATT), total sugars (AT), soluble solids (SS) and enzyme activity of polyphenoloxidase (PPO). To analyze the effect of processing, the storage temperature, and coffee processing on the quality of coffee along the storage was performed the Principal Component Analysis (PCA) using the computational software R (2013).

Results

The sensory attributes and total sensory note were determinant in characterizing the first main component and the chemical compounds to characterize the second main component. The coffees not processed, stored at temperature of 10°C, were the ones who presented the highest values of all the sensory attributes and final sensory note. On the other hand, smaller values of the sensory attributes of coffee were observed in natural coffees manually processed, stored at a temperature of 25°C at the end of the storage season. The analyses of ATT, CE and LK allowed discrimination of mechanically processed coffees, that is, higher values of these parameters were observed in mechanically processed coffees, especially in storage temperature of 25°C at the end of the storage time.

Conclusions & Perspectives

The reduction in air temperature of storage as well as storage of the grains without processing favors the maintenance of the quality of coffee along the storage.

References

- 1 R Development Core Team. **R**: a language and environment for statistical computing. Foundation for Statistical Computing, Viena (2013).