

Title Storage of green coffee in hermetic packaging injected with CO₂

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Abstract

The objective of this study was to evaluate the physical, chemical, and sensory qualities of green coffee beans (*Coffea arabica* L.) during storage in different types of packaging. Coffee was stored from October 2008 to September 2009 in a warehouse of the Agriculture Society Ltda. (SAAG) in Santana da Vargem, southern Minas Gerais State, Brazil. The treatments in the factorial design consisted of two types of packaging (hermetic big bags with the injection of up to 60% CO₂ in a controlled atmosphere; similar bags but without the injection of CO₂ in a modified atmosphere) and three sampling positions in the bags (high, medium, and low). At 3-month intervals during a 12-month period, grains were analyzed to determine their water content, color, electrical conductivity, potassium lixiviation, and content of sugars. Sensory analysis was also conducted at these sampling times. The storage of green coffee beans in hermetic big bags on a commercial scale under modified and controlled atmospheric conditions is viable over a 12-month period. The coffee packed in big bags maintained its quality and exhibited an intensification of the green coloration of the grains during storage. Sensory analysis of coffee beans stored in a controlled atmosphere showed that the medium sampling position yielded the best ratings. The results of this analysis demonstrated that this storage technique can potentially increase the effectiveness of methods used to preserve the sensory quality of coffee beans.