

Effect of harvest time and postharvest processes on the proximate and mineral composition of cocoa beans from the Chuao region, state of Aragua, Venezuela

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Abstract

The goal of the present study was to evaluate the effect of the harvest time and post-harvest processes on the proximate composition and mineral profile of cocoa beans that were gathered from crops growing at the of Chuao region, Aragua state, Venezuela, from June through August 2004 (*San Juanera* crop). In order to achieve the objectives focused in this research, almond samples previously fermented for 5 days, and sundried 6 days, were roasted under laboratory controlled conditions at 150°C for 30 min. Proximate composition (moisture content, crude protein, crude fat and ash), total and reducing sugars, and mineral profile were determined according to the methods described by Venezuela. The results are indicating statistically significant differences in ($P \leq 0,05$) the proximal composition, specifically in moisture content and crude fat as well as in the content of total and reducing sugars, by effect of the roasting process. In contrast, the effect of harvest time was reflected in the ash content, which is attributed to agro-climatic factors, since cocoa is dried in the sun on yards, exposed to the weather, which results in air pollution and soil. Mineral content in the air and the yards is highly dependent on the climate and time. The roasting treatment and harvest time have affected the contents of zinc and copper at the mineral profile. This variation of the minerals present in the beans could be due to fertilizer and/or the presences of these micro elements in the ground during that time, as mentioned above. It was concluded that both factors influence the composition of the cocoa beans.