



Monitoring of hydrocyanic acid content in honey produced by *Apis mellifera* Africanized culture in cassava (*Manihot esculenta* Crantz)

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INTRODUCTION

The competition in the world market for honey has for competitiveness. been aggressive and the price is a relevant factor. However, it is increasing the importance of quality and differentiation of the product as a condition of access to international market. The cassava (*Manihot esculenta* Crantz) is a plant that has significant importance in Brazil. Displays cyanogen glycosides, which release enzymes under action of acetone, sugars and hydrogen cyanide (HCN). The HCN inhibits the activity of respiratory chain, so their presence should be monitored in food (Chisti and Cohen, 2008). Seeking to diversify agricultural activities in the São Paulo state, Brazil, cassava producers are creating bees in the midst of culture, but the sensory quality is affected by the presence of HCN in honey. To obtain results on the quality of honey, the paper attempts to quantify the levels of HCN during storage.

MATERIALS AND METHODS

The honey is produced by cassava agriculturists in Marília and Ocaçu cities, São Paulo State, Brazil. The honey was harvested and carried to Food Biochemistry Laboratory from the State University of Maringá, Paraná State, Brazil. Were performed to analyze titratable acidity (TTA) and pH after harvest, according to the methodology of the Institute of Food Technology (ITAL 1990), and quantification of HCN by the method of Telles (1972), during the storage period (months from August to December 2008), in plastic bottles properly capped, at room temperature (25° C).

RESULTS AND DISCUSSION

• The values of pH and TTA are shown in Table 1.

Table 1. Determination of pH and acidity of honey from cassava flowers.

Avaliations	Average (±δ)	N.I. n.11/2000	Technical Regulation Mercosul n.56/1999
pH	4,14±0,01	-	-
Acidity mEq kg ⁻¹	49,87±0,01	Max. 50	Max. 40

δ Standard deviation

The HCN content of the honey examined during storage at room temperature, can be seen in Figure 1.

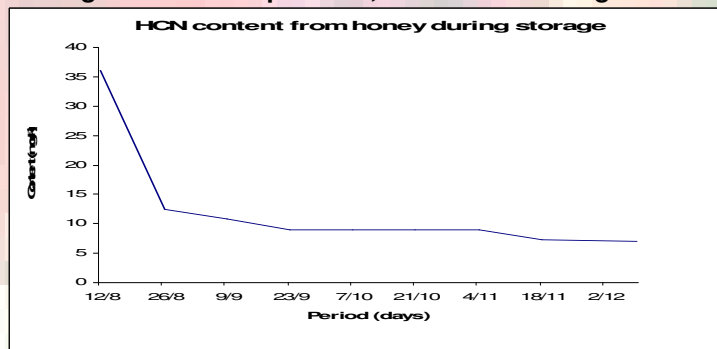


Figure 1. HCN content of the honey from cassava flowers during storage.

Observe that the content varied from 36 to 7.03 mg kg⁻¹, the beginning to the end of storage, respectively.

According to World Health Organization (WHO), the lethal dose (LD 50) of HCN is 10 mg kg⁻¹ body weight (Chisti and Cohen, 2008). The average result obtained at the end of tracking is within the value set by WHO.

CONCLUSION

The honey produced from cassava flower has levels of HCN that allow their use, however, is a necessary preliminary monitoring, observing the reduction of acid, prior to marketing.

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