Physico-chemical caracterization of honeys produced by *Apis mellifera* in the state of Rio Grande do Sul

Franciéli P. da Rosa (IC), Nilce I.C. Vielmo (IC), Maíne G. Boff (IC), Luana P. de Moraes (IC), Michele Brandalise (PQ), Laura G. Mascarin (PQ), Claiton Ruviaro (PQ), Marcelo M. Tusi* (PQ)

Universidade Regional Integrada do Alto Uruguai e das Missões – URI, Av. Batista Bonoto Sobrinho, 733, São Vicente, 97700-000, Santiago, RS.

Palavras Chave: *pH, acidity, reducing sugar content.*

Introduction

The honey produced by the honeybees is a very complex product composed mainly of glucose, fructose and water. The composition of honey depends of flora, climate, processing and storage conditions[1].

In this work, it was performed the chemical characterization of ten honeys without any processing produced at different cities of the Rio Grande do Sul.

Results and Discussion

The parameters evaluated in the honey samples were moisture, pH, acidity, ash content and reducing sugar content in according to the Adolfo Lutz Institute´s manual[2].

In this work, honey samples from the cities of Nova Esperança do Sul (NE1, NE2 and NE3), Santiago (S1 and S2), Itacurubi (I1), Santo Antônio das Missões (SA1), São Francisco de Assis (SF1), Alegrete (A1), Jaguari (J1) and Manoel Viana (MV1) were analyzed. The results are shown in Figures 1 and 2.

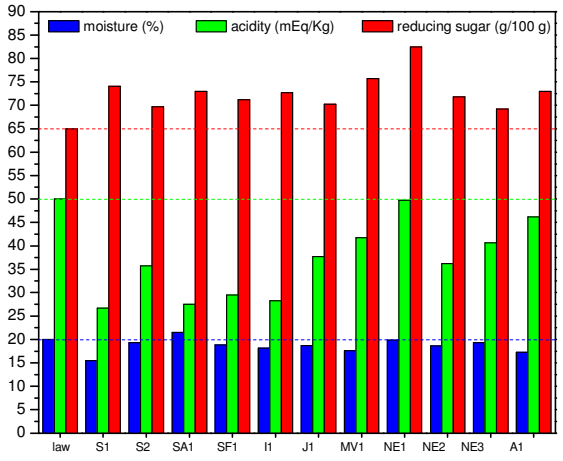

Figure 1. Values of moisture, acidity and reducing sugar content.

The honey from Santo Antônio das Missões showed moisture higher than allowed by law. All honeys presented values of acidity and reducing sugar content in accordance with the Brazilian's law[3].

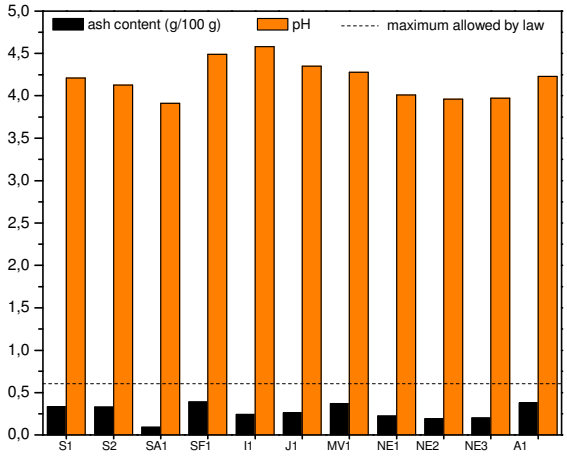

Figure 2. Values of ash content and pH. The dash line represents the maximum allowed by law for ash content.

The ash content of all honeys are in accordance with the law (0,600 g/100 g of honey). The values of ash content found in this study were in the range of 0,090 – 0,480 g/100 g.

The determination of pH is not a compulsory analyze, but it is relevant because it influences the rate of formation of hydroxymethylfurfural, which is an important quality indicator in honey[4]. The values of pH found were in the range of 3.91 – 4.67.

Conclusions

All analyzed honeys are in accordance with the Brazilian's law except the honey from Santo Antônio das Missões (SA1) that presented moisture higher than 20%.

Acknowledgements

The authors thank the PROPEG of Universidade Regional Integrada do Alto Uruguai e das Missões (URI) by financial support.

---

[1] Yücel, Y. e Sultanoğlu, P. .*Food Biosci.* **2013**, *1*, 16.

[2] Instituto Adolfo Lutz. **Métodos físico-químicos para análise de alimentos**. 4. ed. São Paulo: Instituto Adolfo Lutz, 2008.

[3] Brasil. Ministério da Agricultura e do Abastecimento. Instrução Normativa N° 11, de 20 de outubro de 2000 Regulamento técnico de identidade e qualidade do mel. Diário Oficial [da] República Federativa do Brasil, Brasília, DF, 23 out. 2000, seção 1, p. 16-17.

[4] Mendes, C.G.; Silva, J.B.A.; Mesquita, L.X.; Maracajá, P.B. *Revista Caatinga*. **2009**, *22*, 7.