P23. SUGAR PROFILE OF HONEY' PRODUCED IN CASTELO BRANCO REGION

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ABSTRACT

Honey is a sweet natural food product produced by honey-bees, characterized by high amounts of available sugars, manly, fructose and glucose, and is a rich source of amino acids, vitamins, minerals and other biologically active compounds. Compared to commercial sugar, honey has a lower glycaemic index (blood sugar levels are raised more quickly) due to its higher fructose content, and absence of trace minerals. Sugar profile (fructose, glucose, sucrose, maltose, turanose and trehalose) of 46 honey samples from Castelo Branco region were analysed by high performance anion-exchange chromatography pulsed amperometric detection (HPAEC-PAD) (Anjos *et al.*, 2015). Fructose/glucose ratio ranges between 1.22 and 1.62 g/100 g of honey. Turanose and maltose were present in all samples, 1.91 to 3.78 g/100 g of honey and 0.48 to 2.14 g/100 g of honey, respectively. In 24% of honey samples, sucrose was present at levels lower than 2.9 g/100 g of honey (actual honey reference). Trehalose was identified only in the honey samples from Sabugal and Sertã Municipality. Sertã honey has higher amount of turanose. Glucose has the lower amount observed for Sabugal and Proença-a-Nova Municipality. Honey carbohydrate composition depends on the flower nectar collected by bees as well the regional climatic conditions. Our results suggest the carbohydrate profile could be a good indicator of honeys' origin.

References: O. Anjos, M.G. Campos, P.C. Ruiz, P. Antunes, 2015, Food Chemistry, 169, 218 – 223.

Keywords: Honey, Sugar Content, HPAEC-PAD, Castelo Branco.

Sugar profile of honey' produced in Castelo Branco Region


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Honey is a sweet natural food product produced by honey-bees, characterized by high amounts of available sugars, mainly, fructose and glucose, and is a rich source of amino acids, vitamins, minerals and other biologically active compounds.

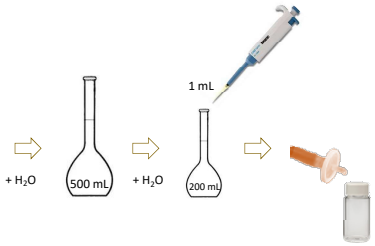
Compared to commercial sugar, honey has a lower glycaemic index due to its higher fructose content, and absence of trace minerals.

AIM characterize the sugar profile of honeys produced in Castelo Branco region.

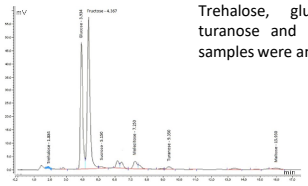
Material and methods

46 samples

1 g of honey

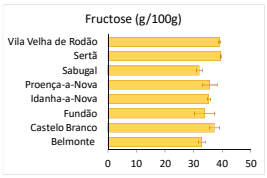


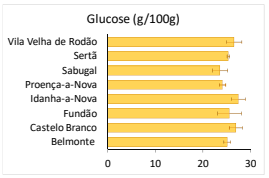
Performance anion-exchange chromatography with pulsed amperometric detection (HPAEC-PAD – ICS3000™ da Dionex®) were used.

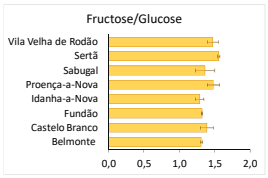


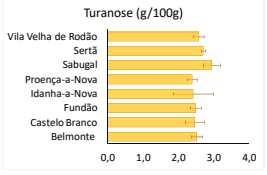
Trehalose, glucose, fructose, sucrose, turanose and maltose content in honey samples were analysed.

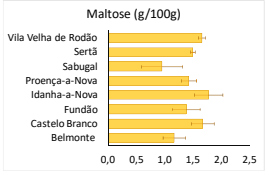
Results and discussion

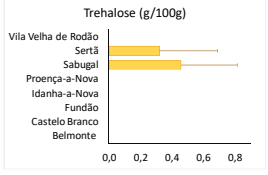


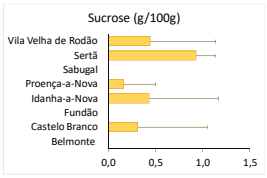












Fructose/glucose ratio ranges between 1.22 and 1.62 g/100 g.

Turanose and maltose were present in all samples, 1.91 to 3.78 g/100 g and 0.48 to 2.14 g/100 g, respectively.

Sabugal honey has higher amount of turanose.

Trehalose was identified only in the honey samples from Sabugal and Sertã Municipality.

Glucose has the lower amount observed for Sabugal and Proença-a-Nova Municipality.

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Conclusions

Honey carbohydrate composition depends on the flower nectar collected by bees as well the regional climatic conditions.

Our results suggest the carbohydrate profile could be a good indicator of honeys' origin.