

# Honey sugars analysis by ion chromatography method with Integrated Pulsed Amperometric Detection (IPAD)

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Glucose and fructose are the most important monosaccharides in honey, these sugars combined in various forms comprise the di- and trisaccharide fractions of floral honey. Fructose/glucose ratio can influence the flavor of honey since fructose is sweeter than glucose. Honeys with higher fructose/glucose ratios remain liquid for longer periods.



In order to characterize the sugar content in honey from different botanical origins a Dionex ICS3000 ion chromatograph was used. Separation was performed in a column "CarboPacTM PA20 3x150mm", with a precolumn "CarboPacTM PA20 3x30mm". Electrochemical detector in Integrated Pulsed Amperometric Detection (IPAD) mode was used. The elution was performed with a gradient with two NaOH solutions (10 and 200 mM).

## Material e methods

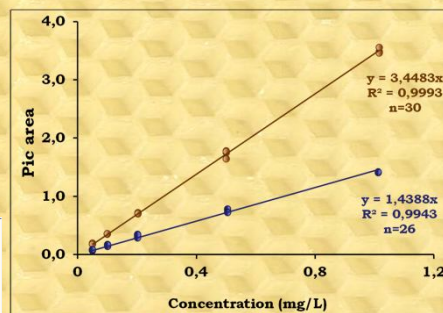
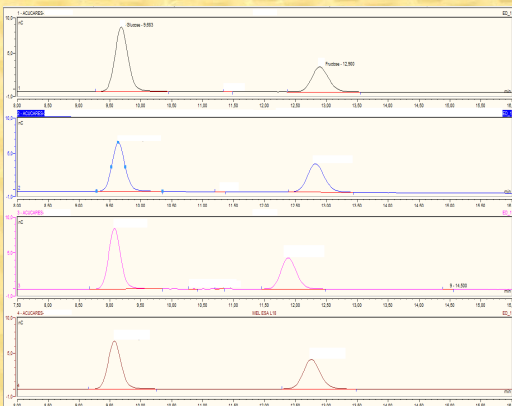
26 monofloral honey samples - Erica, Citrus, Lavandula and Eucalyptus Honeys



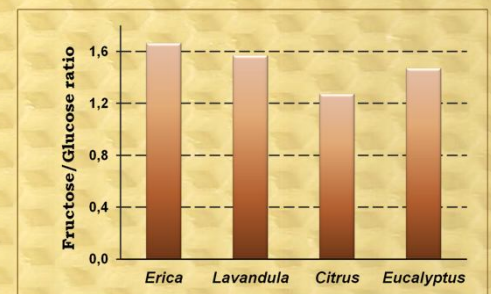
Standard solutions of glucose, fructose and sucrose, were used to identify and quantify the individual sugar components in the honey samples

## Results and discussion

The method showed a good separation between the compounds. The response was linear in the range (0.05 to 1.00 mg/L for fructose and glucose).



The detection limits were 0.014 mg/L for glucose, 0.007 mg/L for fructose and 0.003 mg/L for sucrose.



## Conclusion:

The results show that the fructose/glucose ratios are in accordance with the different honeys analyzed and the HPLC-IPAD is a good methodology to determine the sugar content in honey, with low solvent consumption and residues