

**Analytical Studies on Some Types of Adulteration and  
Contaminants in Honey Floral**

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## **Abstract**

**Title of the thesis:** Analytical Studies on Some Types of Adulteration and Contaminants in Honey Floral.

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Honey consumption has increased over the last few years, it is a natural product composed of sugars, amino acids, enzymes, organic acids, vitamins, carotenoids, minerals, and aromatic substances.

The determination methods of main honey sugars by Ion Chromatography with a pulsed amperometric detector (IC-PAD) and hydroxymethylfurfural (HMF) by HPLC have been adopted and fully validated. The limits of detection (LOD) and limits of quantification (LOQ) were calculated. Accuracy, precision, and uncertainty were estimated for the two methods. Screening the contamination of heavy metals has been applied using ICP-OES.

All laboring methods are internationally accredited by FINAS for fulfilling the requirements of ISO/IEC 17025/2017 standard.

The methods have been applied to the screening of 55 real honey samples from local markets; the resulting data has been employed for estimation of the relation between honey composition and quality parameters.

**Keywords:** (IC-PAD); hydroxymethylfurfural; HPLC; LOD; LOQ; ICP-OES.

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