ΤΕΧΝΟΛΟΓΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΥΠΡΟΥ

ΣΧΟΛΗ ΓΕΩΤΕΧΝΙΚΩΝ ΕΠΙΣΤΗΜΩΝ ΚΑΙ ΔΙΑΧΕΙΡΙΣΗΣ ΠΕΡΙΒΑΛΛΟΝΤΟΣ

Πτυχιακή εργασία

ΧΑΡΟΥΠΟΜΕΛΟ: ΦΥΣΙΚΟΧΗΜΙΚΕΣ ΙΔΙΟΤΗΤΕΣ ΚΑΙ ΕΛΕΓΧΟΣ ΝΟΘΕΙΑΣ

Πολυξένη Αρέστη

Λεμεσός 2015

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ABSTRACT

The carob tree is considered an important component of the vegetation in Mediterranean basin for economic and environmental reasons. Carol pods are used to product many snacks and desserts as well as to produce carob syrup. The production process occurs in three steps: (i) the milling of carob pods, (ii) the maceration of carob pods with water in order to obtain carob juice and (iii) the concentration of carob juice. It presents many benefits for human health because of its unique composition.

The mainpurpose of this study was to determineof physicochemical properties of Cypriot carob syruos such as moisture, pH, color, electrical conductivity, viscosity, texture, fat, total and reducing sugars, the presence HMF, total phenols and antioxidant capacity. Moreover, it aims at solving the most important problem in the marketing of carob, the sucrose supplementation as an adulteration.

Overall, the present work summarized the main physicochemical properties of carob syrups in order to characterize Cypriot carob syrups. , Furthermore, we conclude that it can easily be detected adulteration in carob syrups,using high performance liquid chromatography (HPLC) technique. More specifically, the method is based on the quantification of individual sugars and specifically in content of D-pinitol.

Keywords: *Ceratonia siliqua*, carob syrup, physicochemical properties, adulteration, D-pinitol