

UNIVERSITI TEKNOLOGI MARA

**PHYSICOCHEMICAL ANALYSIS OF
GELAM HONEY**

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Project submitted in fulfillment of the requirements for
the degree of
**Bachelor in Medical Laboratory Technology
(Hons.)**

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DECLARATION BY STUDENT

Project entitled “Physicochemical Analysis of Gelam Honey” is a presentation of my original research work. Whenever contributions of others are involved, every effort is made to indicate this clearly, with due reference to literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Project Supervisor, En. Norhisham Bin Haron. It has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the Degree of Bachelor in Medical Laboratory Technology (Hons).

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In the name of Allah, The Most Gracious, The Most Merciful.

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ABSTRACT

The physicochemical properties of honey is strongly associated with their geographical origin, types of flower or fruit season and useful as an indicator for honey purity and quality. Gelam honey is produced by *Apis mellifera*, and obtained *Melalucae cajupati* plant or locally known as Gelam tree. The current study investigates the physicochemical properties of Gelam honey collected from Marang, Terengganu. Physicochemical properties of honey were evaluated using the Harmonized Methods of the International Commission (IHC). The texture analysis of honey were measured using back extrusion method while pollen analysis was determined using scanning electron microscope (SEM). Gelam honey was amber in color which the Pfund value is 33.38 ± 8.08 mm. The value of electrical conductivity (EC) is 0.84 ± 0.00 mS/cm, insoluble matter (0.62 ± 0.26 g/100g), ash content (0 g/100g) and diastase activity (8.30 ± 5.87 in Schade unit). The textural properties of Gelam honey; stickiness, stringiness, viscosity, cohesiveness, firmness and consistency of the honey were 3.64 ± 0.01 g , 13.14 ± 0.03 mm, 377.67 ± 4.51 mpa/sec, 497.06 ± 0.72 g, 27.34 ± 8.86 g, and 183.91 ± 51.38 gsec respectively. The pollen analysis showed the presence of *Melaleuca cajuputi*, *Mimosa pudica*, *Elaeis guineensis* and an unidentified pollen. In conclusion, the findings obtained from physicochemical and pollen analysis indicate that Gelam honey from Marang is a good quality honey.

Keywords: *Physicochemical, Honey, Gelam, Pollen analysis, Textural properties.*