

Analysis of Essential Minerals (Chromium, Zinc and Manganese) and Test Of Bio-Physical Chemistry Honey From Kindang District, Bulukumba

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ABSTRACT

Honey is a sweet liquid that comes from the nectar of plants that are processed by bee. The composition of minerals in honey is an important factor in determining the quality of honey because it can affect the properties of bio-chemical physics honey. This research investigated the essential minerals concentration (Cr, Zn, and Mn), as well as the properties of bio-chemical physics. Three samples were collected from obtained from different location in the district Kindang is, Kindang, Pattalassang and Oro Gading. Honey samples were analyzed for essential micro mineral Chromium, Zinc and Manganese by using instrument ICP-OES and also analyzed for common bio-physicochemical parameters like moisture content, acidity, ash, pH, conductivity, protein, fat, carbohydrate and calorie. Ranged concentration manganese content of honey from 0.05 to 0.07 mg/mL, 0.05-0.07 mg/mL and concentration of chromium $\leq 0,1$ ng/mL-0.22 mg/mL, whereas the concentration of zinc is below the limit detection tool that is $\leq 0,1$ ng/mL. The average value of the quality of honey Kindang districts is 19.69% water content, ash content of 0.26%; DHL 0.36 mS/cm; 22.06 acidity meq/kg; pH 4.43; protein of 7.19% (w/w); 0.1301% fat. Total carbohydrate is 72.55%; calories 320.3101 cal; and energy 1340.2289 KJ. The results of this study indicate that manganese has the highest concentration in all samples of honey and showed that honey from Kindang district have the a good quality according to national and international standar of honey.

Key Word : Micro mineral essential, Bio-physic chemical, Honey, District Kindang, ICP-OES

PENDAHULUAN

Madu merupakan cairan nektar yang secara enzimatik telah diubah melalui penambahan enzim dari kelenjar *hypopharyngeal*, terutama diastase, sukrase dan oksidase glukosa. Lebah madu membutuhkan beberapa senyawa yang penting seperti karbohidrat, protein, lemak, sterol, mineral, vitamin dan air dalam melangsungkan hidup (Maryland.,

2015). Meningkatnya kesadaran masyarakat akan pentingnya madu berpengaruh terhadap kekhawatiran yang disebabkan oleh adanya madu berkualitas rendah yang terjual bebas dipasaran (Harjo dkk., 2004).

Menurut beberapa penelitian, kandungan madu sangat bervariasi tergantung pada jenis dan asal madu. Menurut penelitian yang dilakukan oleh (Conti dkk., 2014) terdapat

