

COMPARATIVE PHYSICOCHEMICAL ANALYSIS OF DIFFERENT PARTS OF MEDICINAL PLANT *Psidium guajava* L IN JAFFNA DISTRICT

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Abstract - *Psidium guajava* L (Myrtaceae) is a major food crop and medicinal plant that may be found in tropical and subtropical areas. It has been used in the treatment of inflammation, diabetes, hypertension, wounds, and fever for centuries. The purpose of this research was to comparatively analyze the physicochemical possessions in different parts of *Psidium guajava* L. in Jaffna District. For this purpose, the different parts such as leaves, fruits, seeds and bark of *Psidium guajava* were collected, and their identification was authenticated. Physicochemical parameters as pH (1%, 10%), electric conductivity (1%, 10%), brix value (1%, 10%), crude protein, fat, moisture contents, different ash values, minerals and elemental analysis were evaluated to determine the quality. Results are showed that the bark has highest pH (1%: 4.90 ± 0.02 , 10%: 4.91 ± 0.03) and lowest moisture content (05.24 ± 0.06); fruit has highest electric conductivity (1%: $590.67 \pm 0.58 \mu\text{s}$, 10%: $4.43 \pm 0.01 \text{ms}$), brix value (10%) and highest crude protein content ($20.89 \pm 0.21\%$) while seeds have highest fat content ($8.19 \pm 0.14\%$). Further the leaves have highest total ash (wet basis 7.30 ± 0.36 and dry basis 7.95 ± 0.08), acid insoluble ash (5.39 ± 0.03), sulphated ash (0.31 ± 0.01) and alcoholic and aqueous extractive values than other parts of this plant. Elements as sodium and potassium were detected highly in fruit of this plant. This current study concluded that the different parts of the *Psidium guajava* have different physicochemical properties which are revealing the various pharmacological attributes of this plant. Further, this information can be supportive in the correct documentation of this plant for upcoming systematic amendments.

Keywords: Different parts; Jaffna; Medicinal plant; Physicochemical analysis; *Psidium guajava*