

Analyzing the Anthocyanin Intensity and Morphology of *Clitoria ternatea* Flower in Rajarata Area

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The *Clitoria ternatea*, commonly known as butterfly pea or blue pea, thrives in Southeast Asia and is extensively cultivated in Sri Lanka. The investigation aimed to assess the anthocyanin content of *Clitoria ternatea*, commonly known as butterfly pea or blue pea, in the Rajarata region. The research focused on four distinct flower varieties, namely light blue single, light purple single, dark blue, and dark blue-purple double flower. Those were collected to observe their anthocyanin intensity and morphological characteristics were observed in the four varieties. The pH differential method was utilized to determine the total monomeric anthocyanin concentration. The dark blue-purple double-petaled flower emerged as the variety with the highest anthocyanin content, reaching 42.895 mg/L. According to the assessment anthocyanin was extracted at 50°C for 60 minutes, with a 1:10 ratio. Additionally, the research highlighted variations in flower color and size among the varieties. Varieties may differ in flower color and size. The dark blue-purple double flower stands out with high width (4.67 ± 0.13 cm), height (4.47 ± 0.13 cm), and weight (1.1 ± 0.20 mg). This variety showcased heightened anthocyanin intensity.

Keywords: Anthocyanin, Blue pea, *Clitoria ternatea*, Morphology, pH difference

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