

ABSTRACT

EVALUATING THE TOTAL FLAVONOID CONTENT IN THE BLUE BUTTERFLY PEA FLOWE (*Clitoria ternatea* L.) DRINK WITH THE ADDITION OF 5% BILIMBI FRUIT (*Averrhoa bilimbi* L.) EXTRACT USING A SPEKTROPHOTOMETER

DEFANI FITRI ARIYANTI

This study focuses on evaluating the total flavonoid content in the blue butterfly pea flower (*Clitoria ternatea* L.) drink with the addition of 5% bilimbi fruit (*Averrhoa bilimbi* L.) extract using a spectrophotometer. The research was conducted in the Laboratory of the Academy of Pharmacy Surabaya. The methodology involved the use of UV-Vis spectrophotometry to measure the absorbance resulting from the chemical interaction between electromagnetic radiation and the molecules in the solution. Materials used included blue butterfly pea flowers and starfruit extract. The process involved plant extraction, active compound isolation, and the measurement of total flavonoid content using a quercetin standard solution.

Results showed that the addition of 5% bilimbi extract did not increase the total flavonoid content in the blue butterfly pea flower drink. Among the three samples, Sample B had the highest flavonoid content with a value of 0.0547 ± 0.000551 mgQE/g. This was attributed to the instability and degradation of anthocyanins in the blue butterfly pea flower drink, influenced by factors such as temperature, pH, and light..

Based on the research, it can be concluded that while the bilimbi extract did not enhance flavonoid levels, it is crucial to consider the stability of anthocyanins under varying conditions. Future research should explore other herbal combinations to develop antioxidant-rich beverages.

Keywords: Flavonoid, Blue Butterfly Pea, Bilimbi Extract, UV-Vis Spectrophotometry, Antioxidants, Herbal Drink.