

PENGEMBANGAN BUNGA TELANG (*Clitoria ternatea* L.) SEBAGAI MINUMAN INSTAN DENGAN PENAMBAHAN MADU DAN LEMON TERHADAP KADAR METABOLIT SEKUNDER SERTA AKTIVITAS ANTIOKSIDAN

Syifa Regina Prasetyawan

ABSTRAK

Bunga telang (*Clitoria ternatea* L.) kaya akan kandungan antosianin dan fenolik yang berkhasiat sebagai antioksidan, namun penambahan madu dan lemon dapat memengaruhi kadar metabolit sekunder dan aktivitas antioksidan yang dihasilkan. Bunga telang terbukti memiliki aktivitas antioksidan, antidiabetes, anti-inflamasi, antimikroorganisme dan antikanker. Penelitian ini bertujuan menetapkan kadar metabolit sekunder serta aktivitas antioksidan formula minuman bunga telang dengan penambahan madu dan lemon. Simplisia kering diekstraksi dengan metode infusa menggunakan akuades, kadar antosianin ditetapkan dengan metode pH diferensial, kadar fenol total ditentukan dengan Folin-Ciocalteu, sedangkan aktivitas antioksidan ditentukan dengan metode DPPH yang dinyatakan sebagai nilai IC₅₀. Hasil menunjukkan bahwa kadar fenol total terbaik dihasilkan oleh formula D yaitu sebesar 83,46 mgGAE/g $\pm$ 0,306. Kadar antosianin total terbaik dihasilkan oleh formula minuman E yaitu sebesar 1,5203 mgDE/g $\pm$ 0,0060. Aktivitas antioksidan terbaik dihasilkan oleh formula minuman E yaitu sebesar 543,3298 $\pm$ 0,0367 ppm. Penambahan madu dan lemon berpengaruh signifikan terhadap kadar metabolit sekunder dan aktivitas antioksidan minuman instan bunga telang. Namun, peningkatan kadar fenol dan antosianin tidak berhubungan langsung dengan peningkatan aktivitas antioksidan, sehingga efektivitas formula lebih ditentukan oleh interaksi komponen dan stabilitas senyawa aktif.

Kata Kunci : antioksidan, *clitoria ternatea*, lemon, madu, metabolit sekunder

DEVELOPMENT OF BLUE-PEA FLOWERS (*Clitoria ternatea* L.) AS AN INSTANT DRINK WITH THE ADDITION OF HONEY AND LEMON ON SECONDARY METABOLITES LEVELS AND ANTIOXIDANT ACTIVITY

Syifa Regina Prasetyawan

ABSTRAK

*Butterfly pea flowers (*Clitoria ternatea* L.) are rich in anthocyanins and phenolics which are effective as antioxidants, but the addition of honey and lemon can affect the levels of secondary metabolites and the resulting antioxidant activity. Butterfly pea flowers have been proven by several studies as antioxidants, antidiabetics, anti-inflammatory, antimicrobials and anticancer. This study aims to determine the levels of secondary metabolites and antioxidant activity of butterfly pea flower drink formulas with the addition of honey and lemon. Dried simplicia was extracted by infusion method using distilled water, anthocyanin levels were determined by the pH differential method, total phenol levels were determined by Folin-Ciocalteu, while antioxidant activity was determined by the DPPH method expressed as IC₅₀ values. The results showed that the best total phenol content was produced by formula D, which was 83.46 mgGAE/g $\pm$ 0.306. The best total anthocyanin content was produced by drink formula E, which was 1.5203 mgDE/g $\pm$ 0.0060. The best antioxidant activity was produced by drink formula E, which was 543.3298 $\pm$ 0.0367 ppm. The addition of honey and lemon significantly affected the levels of secondary metabolites and antioxidant activity of butterfly pea instant drink. However, increasing phenol and anthocyanin levels was not directly related to increasing antioxidant activity, so the effectiveness of the formula was more determined by the interaction of components and the stability of the active compounds.*

Keywords: antioxidants, *clitoria ternatea*, honey, lemon, secondary metabolites