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AKTIVITAS ANTIOKSIDAN TEH KOMBUCHA DAUN PECUT KUDA (*Stachytarpheta jamaicensis* L.) DAN EKSTRAKSI ETANOL 96% MENGGUNAKAN METODE *FERRIC REDUCING ANTIOXIDANT POWER*

ABSTRAK

Latar Belakang: Radikal bebas dapat menyebabkan stres oksidatif yang berkontribusi pada berbagai penyakit degeneratif. Antioksidan berperan dalam menetralisir radikal bebas untuk melindungi sel tubuh. Teh kombucha daun pecut kuda (*Stachytarpheta jamaicensis* L.) berpotensi sebagai sumber antioksidan alami karena mengandung flavonoid, fenolik, tanin, dan saponin.
Metode: Penelitian ini merupakan penelitian eksperimental laboratorium. Ekstraksi daun pecut kuda dilakukan dengan metode maserasi menggunakan pelarut etanol 96%. Teh kombucha dibuat dengan fermentasi menggunakan kultur *Symbiotic Culture of Bacteria and Yeast* (SCOBY) selama 7 hari. Aktivitas antioksidan diuji menggunakan metode *Ferric Reducing Antioxidant Power*, dengan pengukuran nilai IC_{50} untuk menentukan kekuatan antioksidan.
Hasil: hasil uji flavonoid total dalam teh kombucha memperoleh hasil, dengan nilai masing-masing 1,78 mgQE/g dan 0,14 mgQE/g. Kandungan fenolik total teh kombucha (3,92 mgGAE/g) sedangkan ekstrak daun pecut kuda (1,17 mgGAE/g). Pengukuran aktivitas antioksidan berdasarkan nilai IC_{50} menunjukkan bahwa teh kombucha daun pecut kuda masuk dalam kategori sangat rendah.
Kesimpulan: Pada pengujian antioksidan menggunakan metode FRAP nilai IC_{50} yang di peroleh dari flavanoid total, dan fenolik total sangat rendah, dimungkinkan karena terjadi kerusakan pada *Trip Pyridyl Triazine* (TPTZ) disebabkna karena distribusi tidak memenuhi persyaratan suhu.

Kata kunci : Antioksidan, teh kombucha, daun pecut kuda,

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ANTIOXIDANT ACTIVITY OF PECUT KUDA LEAF TEA FORMULA (*Stachytarpheta jamaicensis* L.) WITH 96% ETHANOL EXTRACTION USING THE FRAP METHOD

ABSTRACT

Background: Free radicals can cause oxidative stress that contributes to various degenerative diseases. Antioxidants play a role in neutralizing free radicals to protect the body's cells. Pecut kuda leaf kombucha tea (Stachytarpheta jamaicensis) has the potential to be a natural source of antioxidants because it contains flavonoids, phenolics, tannins, and saponins.

Methods: This study is a laboratory experimental research. The extraction of horse sprint leaves is carried out by maceration method using 96% ethanol pellets. Kombucha tea is made by fermentation using Symbiotic Culture of Bacteria and Yeast (SCOBY) culture for 7 days. Anti-oxidant activity was tested using the Ferric Reducing Antioxidant Power (FRAP) method, with IC_{50} value measurement to determine antioxidant strength.

Results: The total flavonoid content in kombucha tea was found to be 1.78 mgQE/g and 0.14 mgQE/g, respectively. The total phenolic content of the kombucha tea was 3.92 mgGAE/g, while the extract of *Stachytarpheta jamaicensis* pecut kuda leaf contained 1.17 mgGAE/g. Antioxidant activity measurement based on IC50 values indicated that kombucha tea made from pecut kuda leaves falls into the "very low" antioxidant category.

Conclusion: In the antioxidant test using the FRAP method, the IC_{50} value obtained from total flavonoids and total phenolics was very low, possibly due to damage to TPTZ (Trip Pyridyl Triazine) this was due to the distribution not meeting the required temperature conditions.

Keywords: Antioxidants, kombucha tea, horse sprint leaves.