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UJI FLAVONOID, AKTIVITAS ANTIOKSIDAN, SERTA KEAMANAN TEH DAUN UNGU (*Graptophyllum pictum* (L.) Griff.) DAN KULIT NANAS VARIAN *QUEEN* (*Ananas comosus* (L.) Merr.) SEBAGAI MINUMAN FUNGSIONAL DENGAN POTENSI ANTIOKSIDAN

RINCIAN HALAMAN (x + 100 halaman, 16 tabel, 9 gambar, 4 lampiran)

ABSTRAK

Tujuan: Stroke iskemik masih menjadi penyebab utama morbiditas dan mortalitas. Penelitian ini mengevaluasi kandungan flavonoid, aktivitas antioksidan, serta aspek keamanan teh daun ungu (*Graptophyllum pictum*) dan kulit nanas (*Ananas comosus*) sebagai minuman fungsional dengan potensi neuroprotektif. **Metode**: Sampel daun ungu dan kulit nanas dikeringkan dengan oven dengan suhu 50-60℃ selama 2 hari, kemudian dilakukan analisis kadar flavonoid, uji aktivitas antioksidan menggunakan DPPH, serta pemeriksaan keamanan produk melalui uji cemaran logam berat, mikrobiologi, dan FTIR untuk mikroplastik. **Hasil**: Run 8 menunjukkan kadar flavonoid tertinggi sebesar 5,65 mg QE/g DW, sedangkan aktivitas antioksidan paling kuat diperoleh pada Run 8 dengan nilai 46,00 µmol TE/g DW. Cemaranlogam berat berada dalam batas aman, tetapi uji mikroba tidak sesuai standar BPOM. Analisis FTIR tidak ditemukan gugus-gugus fungsional yang mengindikasikan keberadaan mikroplastik. **Kesimpulan**: Kombinasi daun ungu dan kulit nanas memiliki kandungan bioaktif dengan aktivitas antioksidan tinggi, namun aspek keamanan mikrobiologis masih perlu ditingkatkan sebelum dikembangkan lebih lanjut sebagai minuman fungsional.

Kata kunci: stroke iskemik, daun ungu, kulit nanas, flavonoid, antioksidan, minuman fungsional.

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FLAVONOID CONTENT, ANTIOXIDANT ACTIVITY, AND SAFETY EVALUATION OF PURPLE LEAF (*Graptophyllum pictum* (L.) GRIFF.) AND PINEAPPLE PEEL VAR. QUEEN (*Ananas comosus* (L.) MERR.) TEA AS A FUNCTIONAL BEVERAGE WITH ANTIOXIDANT POTENTIAL

*PAGE DETAIL (*x + 100 pages, 13 tables, 9 images, 4 appendices)

ABSTRACT

***Objective**: Ischemic stroke remains a leading cause of morbidityand mortality worldwide. This study aimed to evaluate the flavonoid content, antioxidant activity, and safety profile of tea formulated from purple leaves (Graptophyllum pictum) and pineapple peel (Ananas comosus) as a potential functional beverage with neuroprotective properties. **Methods**: Purple leaves and pineapple peel were oven-dried at 50-60℃ for 48h. Flavonoid levels were quantified, antioxidant activitywa assessed using the DPPH assay, and product safety was examined through heavy metal contamination tests, microbiological analysis, and FTIR spectroscopy for microplastic detection. **Results**: Run 8 yielded the highest flavonoid concentration at 5.65 mg QE/g DW, alongside the strongest antioxidant activity at 46.00 µmol TE/g DW. Heavy metal levels were within acceptable limits, whereas microbial contamination exceeded BPOM requirements. FTIR analysis revealed no functional groups indicative of microplastic presence. **Conclusion**: Tea derived from purple leaves and pineapple peel demonstrates notable bioactive content and strong antioxidant capacity. However, improvements in microbiological safety are required before further development as a functional beverage.*

Keywords: ischemic stroke, Graptophyllum pictum, Ananas comosus, flavonoids, antioxidant activity, functional beverage