ABSTRAK

Pengeringan merupakan tahapan penting dalam pembuatan simplisia karena dapat memengaruhi kandungan senyawa aktif, termasuk flavonoid pada tanaman mata ikan (*Lemna minor* L.). Penelitian ini bertujuan untuk mengetahui pengaruh variasi suhu pengeringan dengan metode *oven drying* terhadap kadar flavonoid total ekstrak etanol tanaman mata ikan. Simplisia dikeringkan menggunakan oven bpada suhu 40°C, 50°C, dan 60°C, kemudian diekstraksi dengan bantuan ultrasonik menggunakan etanol 70%, dilanjutkan deklorofilasi menggunakan n-heksan dan identifikasi flavonoid dengan Kromatografi Lapis Tipis (KLT). Penetapan kadar flavonoid total dilakukan menggunakan metode aluminium klorida dengan spektrofotometer UV-Vis dan kuersetin sebagai standar. Hasil penelitian menunjukkan kadar flavonoid total pada suhu 40°C, 50°C, dan 60°C berturut-turut sebesar 70,67 ± 0,23; 76,00 ± 0,53; dan 69,63 ± 0,64 mg QE/g ekstrak. Kemudian dilakukan uji One-way anova yang menyatakan bahwa variasi suhu pengeringan berbeda bermakna ($p < 0,05$), dan dilanjutkan uji post hoc Tukey HSD yang menunjukkan bahwa perlakuan suhu 50°C berbeda signifikan dibandingkan suhu 40°C dan 60°C ($p < 0,05$), sedangkan suhu 40°C dan 60°C tidak berbeda signifikan ($p > 0,05$).

Kata kunci: flavonoid, tanaman mata ikan, suhu pengeringan, spektrofotometri UV-Vis, aluminium klorida

ABSTRACT

Drying is an important step in the preparation of herbal simplicia because it can affect the content of bioactive compounds, including flavonoids, in duckweed. This study aimed to determine the effect of different oven-drying temperatures on the total flavonoid content of the ethanolic extract of duckweed. The simplicia were dried in a hot-air oven at 40°C, 50°C, and 60°C, followed by ultrasound-assisted extraction using 70% ethanol. The extract was then dechlorophyllized using n-hexane, and flavonoids were qualitatively identified by Thin-Layer Chromatography (TLC). Total flavonoid content was determined using the aluminum chloride colorimetric method with a UV-Visible spectrophotometer, employing quercetin as the reference standard. The total flavonoid contents at drying temperatures of 40°C, 50°C, and 60°C were 70.67 ± 0.23, 76.00 ± 0.53, and 69.63 ± 0.64 mg QE/g extract, respectively. One-way analysis of variance (ANOVA) showed that drying temperature had a significant effect on the total flavonoid content ($p < 0.05$). Furthermore, Tukey's HSD post hoc test revealed that the 50°C treatment differed significantly from both the 40°C and 60°C treatments ($p < 0.05$), whereas no significant difference was observed between the 40°C and 60°C treatments ($p > 0.05$). These findings indicate that a drying temperature of 50°C is the optimum condition for preserving the total flavonoid content in the ethanolic extract of duckweed.

Keywords: Duckweed, total flavonoid content, drying temperature, UV-Vis spectrophotometry, aluminum chloride.