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Evaluation of the DPPH Radical Scavenging Activity, Total Phenols in Tunceli Wild Nettle (*Urtica dioica L.*) Extract

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Since ancient times, many official herbs have provoked interest as sources of natural products. They have been screened for their potential uses as alternative remedies for the treatment of many infections and preservation of foods from the toxic effects of oxidants. The preservative effect of many plant species and herbs suggests the presence of antioxidative and antimicrobial constituents [1]. Therefore, the assessment of such properties remains an interesting and useful task, particularly for finding new sources for natural antioxidants, functional foods and nutraceuticals [2].

In this study, the antioxidant activity was tested spectrophotometrically, measuring the ability of the plant extract to scavenge a stable DPPH˙ free radical and the total phenolic contents. The free radical scavenging capacity of plant extracts was measured by DPPH˙ (2,2- diphenyl -1- picryl-hydrazil) using the method of Shimada et al. [3]. IC_{50} values denote the concentration of sample, which is required to scavenge 50% of DPPH free radicals. The total phenol content was determined using the Folin-Ciocalteu method [4]. The standard curve was prepared using 0, 50, 100, 150, 200, 250 mg L-1 solutions of gallic acid in methanoi: water (50:50, v/v). Total phenol values are expressed in terms of gallic acid equivalent (mg g –1 of dry mass), which is a common reference compound.

The nettle methanolic extract showed a strong antioxidant activity by inhibiting DPPH. In addition, the nettle was found to contain a noticeable amount of total phenols which play a major role in controlling oxidation. These resuits indicate that nettle extracts have a noticeable effect on scavenging free radical and high content of total phenolic compounds; therefore these plants are potential sources of natural antioxidants.

KEYWORDS: Nettle, free radical scavenging capacity, total phenolic compound.

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