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Oxidative stress is defined as an imbalance between the production of oxidants that can damage biological systems and antioxidant defense mechanisms. Oxidative stress is the most triggering component of a wide range of health problems, including atherosclerosis, chronic obstructive pulmonary disease, Alzheimer's disease, diabetes and cancer [1]. Synthetic antioxidants are used in the food industry to prevent oxidative stress and daily intake limits have been determined as safe. However, studies have proven the adverse effects of long-term and acute exposure to synthetic antioxidants [2]. Therefore, studies on antioxidant properties of bee pollen, one of the most popular natural compounds, are increasing in the discovery of natural antioxidants with fewer side effects [3].

In this study, the methanol and water extracts of pamucak (*Cistus creticus*) and söğüt (*Salix* sp.) bee pollens and hexane, dichloromethane, ethyl acetate, butanol, and water fractions from the methanol extracts were obtained. Antioxidant activities of all bee pollens, extracts and fractions were tested by using DPPH• scavenging, ABTS•+ scavenging, β-carotene linoleic acid, CUPRAC, and metal chelating assays. In DPPH• and ABTS•+ scavenging assays, söğüt ethyl acetate (IC₅₀: 2.46±0.04, 1.21±0.08 µg/mL) and butanol fractions (IC₅₀: 7.97±0.08, 3.38±0.14 µg/mL) and pamucak ethyl acetate fraction (IC₅₀: 6.56±0.08, 4.98±0.03 µg/mL) were found higher antioxidant active than BHA (IC₅₀: 19.76±0.36, 11.76±0.09 µg/mL) and α-tocopherol (IC₅₀: 37.18±0.41, 38.46±0.54 µg/mL). Pamucak hexane fraction and methanol extract and söğüt butanol and ethyl acetate fractions displayed the highest β-carotene linoleic acid activity with IC₅₀ values of 78.71±0.67, 101.98±0.88, 125.06±1.91, and 137.84±1.33 µg/mL, respectively. In CUPRAC assay, when söğüt ethyl acetate (A_{0.50}: 32.09±0.58 µg/mL) and butanol (A_{0.50}: 25.34±0.57 µg/mL) fractions showed higher antioxidant activity than α-tocopherol (A_{0.50}: 89.47±0.87 µg/mL), pamucak ethyl acetate (A_{0.50}: 20.41±0.87 µg/mL) exhibited higher antioxidant activity than α-tocopherol and BHA (A_{0.50}: 24.42±0.69 µg/mL). In addition, söğüt hexane fraction (85.06±0.20%) and pamucak water extract (79.26±0.13%) showed near standard metal chelating activity to EDTA (96.30±0.11%) at 800 µg/mL concentration.