

SPECTROPHOTOMETRIC ANALYSIS OF PURE EXTRACTS AND THEIR FRACTIONS FROM DIFFERENT PARTS OF *ARTEMISIA DUBIA* WALL.

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Energy crops are crops that produce large amounts of biomass and belong to one of the fastest growing fields of alternative energy. However, some energy crops may not only be used for energy production but may exhibit antimicrobial, allelopathic, antioxidant or insecticidal properties and not all plants have been evaluated for such co-activity [1]. *Artemisia dubia* Wall. is one of the energy crops grown in Lithuania. The potential of this plant has not yet been fully disclosed, and it is very important to evaluate which plant compounds or fractions are associated with a particular activity [2]. Plants are known to adapt to the surrounding environment and have their own genotypes and chemotypes, so it is very important to evaluate the local *Artemisia dubia* Wall. biological activity in certain edaphoclimatic conditions.

The *main aim* of the study is to determine the total amount of phenolic compounds, total flavonoids and antiradical activity of different *Artemisia dubia* Wall. plant parts extracts and fractions, thus assessing the antioxidant properties of the plant.

A. dubia was collected from Akademija, Kėdainiai district. (55.3896° N, 23.8624° E). Collected raw material was air-dried or frozen in Vytautas Magnus university in Kaunas. Collected raw material was ground to ca. 3-5 mm size fraction. The extracts were prepared using 0.5 g of dried raw or frozen material and 20 mL 75% methanol. Suspensions were left in a shaker for 24 h, and filtered afterwards using filtering paper. Modified spectrophotometric analysis methods were used: Folin-Ciocalteu reagent was used to determine total amount of phenolic compounds and AlCl₃ method was used to determine flavonoids and DPPH method was used to determine the antiradical activity of different plant parts extracts and fractions, which are obtained by solid phase extraction [3].

Spectrophotometric analysis showed that the total amount of phenolic compounds, total amount of flavonoids and antioxidant activity differed significantly between extracts of different parts of the plant. The experiment also showed that different amounts of phenolic compounds are released depending on the raw material preparation (air-dried or frozen).

The report will include an evaluation of total amount of phenolic compounds, flavonoids and antiradical activity of different plant parts and fractions by using solid phase extraction of the *Artemisia dubia* Wall. and a statistical analysis.

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