6. CAROTENOID CONTENT IN THE ONOETHERA BIENNIS L. SPECIES

Author: Sichilii Diana

Scientific adviser: Tatiana Calalb, PhD, Professor, Department of pharmacognosy and pharmaceutical botany, *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova.

Introduction. The species *O. biennis L.*, the common Evening-primrose, family Onagraceae, is a biennial herb, with its native center in North America and later it has conquered the Eurasian areas. It is found in the natural light habitats of the Republic of Moldova and frequently is cultivated as a decorative plant. This species has been introduced in the collection of Scientific and Practical Centre for Medicinal Plants of *Nicolae Testemitanu* SUMPh. The aerial parts, flowers and fruits of this species are plant products with a broad spectrum of natural chemical compounds, used in phytotherapy as anti-inflammatory and antioxidant remedies.

Aim of study. Determination of carotenoid content in aerial parts and flowers collected from the common Evening-primrose plants grown in the SPCMP collection.

Methods and materials. The plant products (aerial parts and flowers) were harvested in the flowering phase, vegetation periods of 2020-2021 and were conditioned according to the requirements of the technical normative documentation. Total carotenoids were determined by spectrophotometric method at Metertech UV/VIS SP 8001 spectrophotometer. The dried biological material was ground in a mortar, extraction was carried out in 2 extractants (95% ethyl alcohol and hexane) in a water bath for 60 min. The optical density of the extracts was read at 470 nm for estimation of carotenoid content. Contents were expressed as mg% FW.

Results. The experimental obtained data, denote that, for all the Evening-primrose aerial part and flowers analyzed, the extraction of carotenoids in 95% ethyl alcohol was more efficient than in hexane. Analysis of the obtained data shows that total carotenoids in recalculation to β-carotene vary in the analyzed plant products from 21.032 to 30.027 mg% in 95% ethyl alcohol and from 1.935 to 7.411 mg% in hexane extractant. The highest values recorded in both extractants were reported for the aerial part – 30.027 mg% in 95% ethyl alcohol and 7.411 mg% in hexane, comparative with the content in flowers (respectively) – 21.032 and 1.935 mg%. The data obtained on the carotenoid content of *O. biennis* serve as an argumentative support for further phytochemical research, which would be the basis for the cultivation of this species and the use of plant products for phytotherapeutic purposes.

Conclusion. Ethyl alcohol 95% is much more efficient for the extraction of carotenoids obtained than hexane from O.biennis plant products. The aerial parts of *O. biennis* grown in collections have a much higher content than flowers and could serve as sources of carotenoid plant products.