

ISSN: 2065-3158 e-ISSN: 2066-9917

Abbreviated titles **J. Plant Develop.**

Indexed in: [Index Copernicus International ICV - 4.58 \(2010\)](#) [EBSCO](#) [CSA](#)
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**COMPARATIVE BIOCHEMICAL AND PHYSIOLOGICAL
RESEARCH ON TAXA OF MENTHA L. GENUS**

ANDRO ANCA-RALUCA¹, BOZ IRINA¹, PĂDURARIU CLAUDIA¹,
ATOFANI DOINA¹, COISIN MAGDA¹, ZAMFIRACHE MARIA-MAGDALENA¹

Abstract: The *Mentha* L. genus has many aromatic and medicinal taxa with a large area in our country. These taxa prefer flooded, swampy areas and wetlands, but they can also grow in moderate dry areas. Biochemical characteristics were obtained for 7 taxa from *Mentha* L. genus, wild or cultivated plants. The studies concerning the assimilative pigments, the hydric content, and the dry matter were determined for each vegetation stage. We used the gravimetric method for the hydric content and dry matter and the spectrophotometric method for estimation of the assimilative pigments. The results of the experiments are not the same for each taxon because of different harvesting periods and the ecological conditions of each taxon area.

Key words: *Mentha*, assimilative pigments, dry matter, water

Introduction

Mentha genus includes herbaceous plants, perennial, aromatic, with a pungent odor characteristic, due to the volatile oil they contain. The Genus *Mentha* L. has a complex taxonomy, which makes it difficult to identify the species because of its phenotypic plasticity, genetic variability and because most species are able to produce hybrids by crossing. For example, the delimitation of the species *Mentha spicata* L. is problematic due to hybridization and doubling the number of chromosomes, especially when introgressive hybridization appears between some species in certain areas [HARLEY, 1972]. Due to their properties, these plants are used in pharmaceutical cosmetic and food industries. Photosynthetic pigments are known for their physiological role of protection against physical agents, such as blue and ultraviolet radiation, but also against biological agents [HOPKINS, 1985]. Water provides an environment for vital biochemical reactions. In metabolic processes it makes the enzyme activity and is involved in both biosynthesis and anabolic processes to catabolic processes of degradation [TOMA & JITĂREANU, 2000].

Materials and methods

The material used in this paper is represented by seven taxa of the genus *Mentha*, cultivated or from spontaneous vegetation, collected in three phenophases: vegetative, flowering and senescence, during the vegetation period of 2010. The cultivated taxa are: *Mentha spicata* L., *Mentha piperita* var. *black* Mitcham. and *Mentha x piperita* var. *columna* L. The spontaneous taxa were collected from the following locations: Caraorman,

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Acknowledgements

This article was made possible with financial support within the POSDRU/88/1.5/S/47646 project, co-funded from the Social European Fund, via Human Resources Development Operational Programme 2007-2013 and by program “Developing the innovation capacity and improving the impact of research through post-doctoral programmes” POSDRU/89/1.5/S/4994.

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