

عنوان مقاله:

Physiological and biochemical characterization of Peppermint (*Mentha piperita* L.) and Sweet Basil (*Ocimum basilicum* L.) in the Water- stream Hydroponic system

محل انتشار:

سومین کنگره بین المللی و چهارمین همایش ملی زیست فناوری گیاهان دارویی و قارچهای کوهی (مجازی) (سال: 1400)

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خلاصه مقاله:

In the condition of soilless culture, some environmental factors that contribute to the high productivity of plants play an important role in the studies of physiological and biochemical characteristics of plants grown in a hydroponic way, and especially those processes that are directly related to plant growth and development. The research objective is the study of properties of valuable, pharmacologically endowed, essential oil plants (Peppermint (*Mentha piperita* L.) and Sweet Basil (*Ocimum basilicum* L.)) as well as the development of the soilless production biotechnology with enhancing of their effectiveness and secondary metabolites in the water-stream hydroponics system. Comparisons were made with classical hydroponics and soil culture. Plant raw material of peppermint and sweet basil received using different hydroponic methods prevail soil culture in dry weight ۱.۴-۲.۶ and ۱.۹-۳.۳ times. During the vegetation in the leaves of peppermint and sweet basil, high content of free water was distinguished in the plants grown in hydroponics culture, particularly in cylindrical hydroponics, which exceeded soil culture ۱.۲-۱.۵ times. At the same time, in all hydroponic variants was observed a relatively small amount of bound water and cell sap osmotic pressure, compared to soil control.

کلمات کلیدی:

biochemical, peppermint. physiological, sweet basil, water-stream hydroponics

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