

**VARIATIONS OF COMPOSITION OF ESSENTIAL OIL AND ACCUMULATION OF SALICYLIC ACID  
IN *MENTHA ARVENSIS* VAR. *PIPERASCENS* (LAMIACEAE) WHEN INTRODUCED IN MOSCOW REGION**

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SUMMARY

Study of composition of essential oil of *Mentha arvensis* var. *piperascens* Malinv. ex Holmes (Vietnamese origin) when grown in atypical climatic environmental conditions at Central Russia is presented. The content of essential oil in the air-dried phytomass of plants was on average 2.8–3.9 % in the first year of vegetation and 2.7–3.8 % in the second year of vegetation. It was also subject to changes in the weather conditions: the minimum level was recorded in the cool year of 2009 – 1.9 % in plants of the first year of vegetation – and the maximum level in the hot year of 2010 – 3.9 % (first year of vegetation) and 3.8 % (second year of vegetation). GC/MS (Gas Chromatography / Mass Spectrometry) analysis revealed differences in the structural composition of the essential oil from certain plant organs during ontogenesis and in accordance with weather conditions. The main constituents identified in the essential oil samples were menthol (48.4–57.0 %), menthone (6.9–15.8 %), isomenthone (17.6–20.6 %) and menthyl acetate (3.9–17.1 %). The content of the major component menthol in the phase of beginning of flowering was in inflorescences – 55.4 %, in leaves – 51.1 %. The content was maximum in the hottest year of observation (2010) – 57.1 %, the minimum was registered in the coolest year (2009) – 48.4 %, in the remaining years of observations – 53.1–54.9 %. Obtained results demonstrate that environmental conditions of Central Russia are suitable for menthol production. *M. arvensis* var. *piperascens* (Vietnam origin) can be recommended for local menthol production and cultivated for pharmaceutical leaves.

**Key words:** *Mentha arvensis* var. *piperascens*, essential oil, ontogenesis; GC/MS analysis.