

Telci I, Demirtas I, Bayram E, Arabacı O, Kaçar O (2010) Environmental variation on aroma components of pulegone/piperitone rich spearmint (*Mentha spicata* L.). Industrial Crops and Products, 32:588–592.

Abstract

Essential oil accumulation and compositions in aromatic plants depend upon various factors such as genetic structure, environmental factors and agronomic practices. Spearmint (*Mentha spicata* L.) is one of the major aromatic plants cultivated for spice and essential oil productions. Field experiments were carried out to determine environmental variation in the new Turkish pulegone–piperitone rich chemotype, so, its cuttings were transplanted in four different locations of Turkey. Essential oil composition was determined with GC–MS. As a result of the research, herb essential oil contents of the chemotype were between 2.41 and 2.74%. Oxygenated monoterpenes including main components, pulegone and piperitone, were the major terpenoid group in the essential oil. Different environmental factors of the locations affected quantitatively oil compositions. The results revealed that monoterpene hydrocarbons such as D-limonene and β -phellandrene were higher in temperate climate with high altitude. On the otherhand, trans- β -caryophyllene and germacrene D, major sesquiterpene hydrocarbons in the oil, were higher in warmer ecologies resulting similar trend in total sesquiterpenes hydrocarbons. Main component pulegone and piperitone and other oxygenated monoterpene 1,8-cineole also showed significant variation in the different ecologies.