THYMUS PULEGIOIDES α-TERPINYL ACETATE CHEMOTYPE: DISTRIBUTION IN LITHUANIA, ALLELOPATHIC AND AUTOALLELOPATHIC FEATURES

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Chemical polymorphism is characteristic of essential oil bearing medicinal and aromatic large thyme (*Thymus pulegioides*). α-Terpinyl acetate chemotype is one of six *T.pulegioides* chemotypes found in Lithuania; α-terpinyl acetate is the main chemical compound of essential oil accumulated in this chemotype [1;2]. This chemotype of *T. pulegiodes* is very rare in Europe; mean while it has not been investigated in Lithuania fully. α-Terpinyl acetate is oxygenated monoterpene. Monoterpenes are strong allelochemicals therefore can affect associated plants (i. e. to inhibit or stimulate their seeds germination and/or seedlings growth) and composition of plant communities [3;4]. The aim of study was:1) to establish prevalence of *T. pulegioides* α-terpinyl acetate chemotype in Lithuania; 2) to determine allelopathic and autoalelopathic potential of essential oil of this chemotype.

131 different habitats of *T. pulegioides* were investigated to evaluate the distribution of *T. pulegioides* α-terpinyl acetate chemotype in Lithuania. The essential oils of *T. pulegioides* were isolated by hydrodistillation in the Clevenger-type apparatus and analysed by GC/FID and GC/MS methods. Allopathic effects (through air and water) of essential oil of *T. pulegioides* α-terpinyl acetate chemotype on germination and radicles growth of *Trifolium pratense*, *Poa pratensis*, *Phleum pratense*, *Hypericum perforatum* and *T. pulegioides* were investigated in laboratory conditions.

Results showed that *T. pulegioides* α-terpinyl acetate chemotype is rare in Lithuania: α-terpinyl acetate was found only in 35 % of all investigated habitats. Amount of α-terpinyl acetate in essential oil was higher than 10 % in four investigated habitats only. The essential oil of α-terpinyl acetate chemotype differently affected on seeds germination and radicles growth of investigated species.The essential oil of this chemotype strongly inhibited seeds germination and radicles growth of *P. pratensis*; the effect through water was stronger than trough air. The inhibitory effect of α-terpinyl acetate on germination of monocotyledon *P.pratense* was weaker. The negative effect of α-terpinyl acetate chemotype on seeds germination of *T. pratense* was the lowest. The effect of the essential oil of α-terpinyl acetate chemotype on radicles growth of *H.perforatum* was stronger than on seeds germination of this species. Autoalelopathic effect of essential oil of *T. pulegioides* α-terpinyl acetate chemotype was low.

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