

عنوان مقاله:

Evaluation of Growth, Essential Oil Content and Composition in Four Thyme Species under Dryland Farming System in Zagheh, Rangeland, Khoramabad, Iran

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خلاصه مقاله:

In order to study the variation of four thyme species for aerial parts biomass, essential oil content and composition, a study was carried out in Zagheh, Rangeland, Khoramabad, Iran. Seeds of four species of *Thymus pubescens* Boiss. & Kotschy ex Celak., *Thymus daenensis* Celak. *Thymus daenensis* subsp. *lancifolius* (Celak.) Jalas and *Thymus kotschyanus* Boiss. & Hohen. were collected from their natural habitat in Lorestan province, Iran. Seeds sown in Jiffy pots in glasshouse in September ۲۰۱۶ and the seedlings were transferred to the field in October ۲۰۱۶ using Randomized Complete Block Design (RCBD) with ۳ replications. Each unit of the experiment consists of ۴۰ plants in two rows with ۵۰ cm distance between rows and ۵۰ cm between plants within rows. Data were collected for aerial parts biomass, morphological traits and essential oil percentages over two years ۲۰۱۷-۲۰۱۸. The essential oils of all samples were obtained by hydro-distillation, in flowering stage and the essential oil components were identified using gas chromatography (GC) and gas chromatography/mass spectrometry (GC-MS). Considerable variation was found between species for fresh and dry weight of aerial parts biomass, plant height, root length and essential oil content. The mean values of aerial parts biomass, crown diameter and essential oil in *T. daenensis* were higher than other species. For the root length, the higher value was obtained in *T. pubescens*. The lower and higher essential oil content with average values of ۱.۵۳% and ۱.۹۵% were obtained in *T. pubescens* and *T. daenensis* subsp. *lancifolius*, respectively. The results indicated that the major components in the essential oil were carvacrol (۵.۸, ۱۸.۵, ۴۲.۴ and ۳۳.۵%) and thymol (۷۸.۹, ۵۱.۹, ۳۶.۱۹ and ۴۲.۷%) for *T. daenensis*, *T. kotschyanus*, *T. daenensis* subsp. *lancifolius* and *T. pubescens*, respectively.

کلمات کلیدی:

Thymus pubescens, *T. lancifolius*, *T. daenensis* subsp. *lancifolius*, *T. kotschyanus*, drought

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