

عنوان مقاله:

Genetic Variation of Shoot Yield, Essential oil and Yield Components in Four Thyme Species

محل انتشار:

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نویسندگان:

Majid Dashti - *Khorasan Razavi Agricultural and Natural Resources Research and Education Center, Agricultural Research, Education and Extension Organization (AREEO), Mashhad, Iran*

Ali Ashraf Jafari - *Research Institute of Forest and Rangeland, Agricultural Research and Education Organization, (AREEO), Tehran, Iran*

Narges Azizi - *Khorasan Razavi Agricultural and Natural Resources Research and Education Center, Agricultural Research, Education and Extension Organization (AREEO), Mashhad, Iran*

Seid Ali Mazloom Moghaddam - *University of Tehran, Tehran, Iran*

Abdoul Karim Negari - *Khorasan Razavi Agricultural and Natural Resources Research and Education Center, Agricultural Research, Education and Extension Organization (AREEO), Mashhad, Iran*

خلاصه مقاله:

Thymus daenensis Celak, *Thymus kotschyanus* Boiss. & Hohen., *Thymus transcaspicus* Klokov and *Thymus vulgaris* L. are aromatic and medicinal species which due to hybridization within species and between species has high morphological diversity. A study was carried out in order to evaluate yield and yield components in 10 ecotypes of *Thymus* species collected from Isfahan, Markazi, Qazvin and West Azerbaijan provinces. This experiment was performed in a randomized complete block design with three replications at Research Center for Agriculture and Natural Resources Research and Education of Razavi Khorasan province. Plant height, shoot yield, 1000-seed weight, essential oils (EO) content, EO yield, number of nodes per stem, internode length and days to flowering stage were measured in all ecotypes. *T. vulgaris* was considered as the control. The results of analysis of variance showed that there were significant differences ($p \leq 0.05$) for days to 50% flowering, number of nodes, internode length, plant height, stem weight, seed weight, EO content and yield among species and ecotypes within *Thymus* species. The highest EO content and yield among species were observed by 2.45% and 1.28 g/plant in *T. vulgaris*, and 2.03% and 0.84 g/plant in *T. daenensis*, respectively. The highest EO content was observed among ecotypes at 1.84% in *T. kotschyanus*, ecotype K54 and 2.32% in *T. daenensis*, ecotype D49. The strong and significant ($P \leq 0.01$) positive correlation of EO yield was observed with EO content ($r=0.88^{**}$), seed weight per plant ($r=0.78^{**}$), plant height ($r=0.70^*$), shoot yield ($r=0.80^{**}$) and internode length ($r=0.89^{**}$). In the principal component analysis in thyme species and ecotypes, the eigenvalues obtained from the first three main components, explain 53%, 15%, 11%, and a total of 80% of the total variance of the variables. It was concluded that the ecotypes of D49 and D72, in *T. daenensis* having higher EO yield were recommended for breeding improved varieties.

کلمات کلیدی:

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