

ABSTRACT

M.Sc. Thesis

DETERMINING THE FIELD PERFORMANCES AND DIFFERENT GERMINATION TECHNIQUES ON THE SEEDS OF SOME PLANT GENUS NAMED AS THYME

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This study is handled between 2007 – 2008 at the laboratory, greenhouse and trial fields of Beydere Seed Certification and Test Center.

In this study, seeds of five different thyme genus belong to different varieties (*Origanum onites* L., *Satureja cuneifolia* Ten., *Thymbra spicata* L. var. *spicata*, *Thymus kotschyanus* Boiss. et Hohen var. *kotschyanus* ve *Coridothymus capitatus* (L.) Reichb. fil. have been tested with 16 different pre-processing methods such as; control under 3 different temperatures (15 °C, 20 °C, 20-30 °C), cold and warm pre-processing with various temperatures and durations, KNO₃, NaCl and GA₃ applications with different dosage, cold stratification, cold waiting and warm water application. The first count on the germinated seeds has been taken on the 7th day and the last count has been taken on the 21st day.

The highest germination rate of *Origanum onites* L.seeds is 70,66 % and was obtained from the first application (control) under 20°C temperature. The highest germination rate of *Satureja cuneifolia* Ten. is 78,66 % and was obtained from the 14th application (cold stratification; 4 weeks, +1°C) under 20 – 30°C temperature. The highest germination rates of *Thymbra spicata* L. var. *spicata* is 36 % and was

obtained from the first application (control) under 15°C temperature. The highest germination rates of *Thymus kotschyanus* Boiss. et Hohen var. *kotschyanus* is 58,35 % and was obtained from the 3rd application (cold pre-processing; 5-minute duration, -20°C) under 20°C. The germination rate of *Coridothymus capitatus* (L.) Reichb. fil. is 80 % and was obtained from application (warm pre-processing; 5-minute duration, +90°C) under 20°C.

There has been no germination of the seeds of five different genus in different varieties under the following applications with all 3 different temperatures: 50 ppm GA₃ for 24 hours, 100 ppm GA₃ for 24 hours, 500 ppm GA₃ for 24 hours, 1000 ppm GA₃ for 24 hours and warm water (keeping in 65 °C water for 24 hours).

To determine the performances of different thyme genus in different varieties which were grown and planted to the trial field, the height of seedlings and roots, fresh and dry weight of seedlings and roots were measured in the 15th, 30th, and 45th days while as they were uprooted with their roots. When the height and dry weight of of seedlings were compared in the 45th day of the thymes, it was seen that the highest seedling height was of *Thymbra spicata* L. var. *spicata* with 20,46 cm and the heaviest seedling weight was of *Coridothymus capitatus* (L.) Reichb. fil. with 1,33 g.

2009, 113 pages

Keywords

Germination, *Origanum*, *Satureja*, *Thymbra*, *Thymus*, *Coridothymus*.