

STUDY OF DIFFERENT SUBSTRATES ON GERMINATION AND GROWTH FACTORS IN *CALENDULA OFFICINALIS*

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Abstract

One of the major factors for growing plants, especially ornamental pot plants bedding is appropriate media. Nowadays a lot of material with organic and inorganic origin are ,That can be added to the media and this material impress the garden soil pH, Availability of mineral elements in plant, The amount of moisture in the garden soil, The pattern of root growth in media, Play an important role in the performance and production of secondary metabolites. One of the factors limiting the export of potted plants is the lack of standards in the media. *Calendula officinalis* is one of the most important plants of Astraceae family that have a widely application in pharmaceutical. The percentages of essential oil in medicinal plant are influenced by many factors that One of these factors is the type of media. To evaluate the effect of different substrates on seed germination in *Calendula officinalis*, the experimental was completely randomized with three replications and eight treatments. It was conducted in Khorasgan (Isfahan) branch, Islamic Azad University, Isfahan, Iran in 2012. In this experiment, the effect of treatment 1(soil and fungus compost), treatment 2(soil), treatment 3(soil, fungus compost and rice bran), treatment 4 (soil, fungus compost, rice bran and manure), treatment 5(soil and rice bran) treatment 6(soil, rice bran and manure), treatment 7(soil, fungus compost and manure), treatment 8(soil and manure) were studied on components germination of *Calendula officinalis*. Germinated seeds counted from the beginning of the sixth day, and counting was done once every 24 hours. The total number of seeds germinated (seedlings produced) was counted and recorded. Traits were Germination rate, final germination percent, Coefficient of Velocity of Germination, Mean daily Germination, mean time germination and Daily germination speed. Data analysis showed that there wasn't significant difference among all treatments for traits Germination rate, final germination percent and Mean daily Germination. The maximum mean time germination in soil treatment and the minimum mean time germination were in soil and fungus compost treatment.

Keywords: Marigold, spent mashroom compost, rice bran, manure.

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