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Utilization of organic matter compost in seed germination of *Pinus halepensis* Mill.

F. Ahmadloo[1]
1. M.Sc. Student of Forestry, College of Natural Resources, Tarbiat Modares University

Although chemical fertilizers are used for increasing plant growth but their continuous utilize has caused environmental pollution and decreased soil fertility. On one hand the forests's surface is decreasing and reforestation needs seedling production in nurseries. Mazandaran province confrontes with pollution problems originiated from chemical fertilizers. One of solutions and alternatives is using organic matter in farms and nurseries to prevent environmental pollution and to obtain sustainable development. Regarding the compost of organic matter effect on seed germination and establishment, germination attributes of *Pinus halepensis* seeds in different soils with components of cattle manure, sand, bran and litter were studied in forest nursery of Koloudeh, located in Amol city. Soil characteristics of treatments were determinated in laboratory. In the present study the species under study had not had any seedling production in nurseries and should have been introduced to the nursuries. The seeds were sown in plastic pots at four replications in a completely randomized design (CRD) and their germination was recorded. After analyzing the data normality (using Kolomogorove-Smirnov test), One-Way-Analysis of variance was performed to assess the statistical differences of treatment effects. DunnettsT3 test was used for comparison of means, and Pearson test for relationship between treatments and seed germination rate. The results demonstrated that there was a significant difference in germination attributes (rate, relation, morality rate, germination speed, germination energy, mean germination period and mean daily germination) seeds among the different organic matter composts. The correlations were significant ($P<0.01$). The increase in germination attributes might be due to physical and chemical improvement of soil structure.

Keywords: Pollution, Organic matter, *Pinus halepensis*, Seed germination, Kolodeh nursery

[1] Corresponding author E-mail: mahsa_ahmadloo@yahoo.com