EFFECT OF MAGNETIC FIELD AND NANO-PARTICLES OF TITANIUM DIOXIDE (TIO_2) ON SEED GERMINATION AND SEEDLINGS EARLY GROWTH OF AJOWAN (*AMMI COPTICUM* L.)

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Nanotechnology as the science of working with the small particles is an approach to improve the efficiency of agricultural systems. In order to study the effect of nano particles of titanium dioxide (TiO_2) and Magnetic fields on seed germination and early growth and seedling characteristics of *Ammi copticum* (L.) a factorial experiment was conducted based on completely randomized design with three replications at agricultural research laboratory of Birjand University in 2012. The first factor was seed priming with TiO_2 (in levels of 0 and 200 ppm), the second factor was intensity of magnetic field with three levels of 50, 100 and 200 mT and the third factor was the time when seeds exposed in magnetic field (with three levels of 30, 60 and 120 minutes). Two control treatments were considered (without any treatments and just priming with titanium dioxide nano-particles. Results indicated that priming with nano-particles of TiO_2 significant effect on mean time germination, germination rate, seedling fresh weight and shoot, root and seedling length. The interaction effect of intensity time of field magnetic which exposed seeds on root length was significant ($p<0.01$). The lowest length and weight of seedling was observed in treatment of 100mT of field magnetic for 60 minutes and the highest length of seedling obtained in treatment of 100 mT for 30 minutes. The most root length observed in 50 mT for 120 minutes. Germination percentage of seeds was not affected by any of examined factors.

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