EFFECT OF SOME BIO AND CHEMICAL FERTILIZERS ON SEED YIELD AND SOME SEED YIELD COMPONENTS OF DILL (*ANETHUM GRAVEOLENSE L.*)

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Currently, medicinal plants are of considerable interest in Iran. Dill (*Anethum graveolense L.*; Fam. Umbelliferae) is one of the most important medicinal and aromatic plants due to its estrogenic activities and uses as a carminative, diuretic, anti-inflammatory, antimicrobial, and galactogogue; it is a substance which is used to increase the production of milk in humans and other animals. Also, it is given to infants in the treatment of flatulence. In addition, the volatile oils of dill are used to control flatulent dyspepsia and colic in children [1].In order to study the effect of some bio and chemical fertilizers on seed yield and some yield components of dill (*Anethum graveolense L.*) an experiment was performed at the Research Station of Faculty of Agriculture, Islamic Azad University of Tabriz, Iran in 2010.The pots experiment was conducted as factorial design based on completely randomized design with three replications. The factors that were studied in this research consisted of dill landrace populations of Mobarakeh Esfahan and Hamadan, mycorrhiza including *Glomus interadices and GlomusMosseae*, biofertilizers of nitrogen-fixing including nitroxin and Super nitro plus and chemical fertilizers containing nitrogen in urea form and phosphorus in triple super phosphate form after soil analysis to the amount of 0%, 50% and 100% .The results showed that application of biofertilizers of mycorrhiza and nitrogen-fixing increased number of grain per plant, grain weight per plant and grain yield in pot. Chemical fertilizeres also showed significant effect on number of umbellifer. In addition, results revealed that interactive effects of more factors had significant effect on more of the studied properties.

Refrences

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IMMUNOSTIMOLATORY ACTIVITY OF HERACLEUM PERSICUM DESF SEED ON THE FUNCTION OF MACROPHAGES IN VITRO

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The seed of *Heracleum persicum Desf.* (*Umbelliferae*), known to possess direct antifungal, anti-bacterial and anticonvulsant activity properties, has been reported. It was therefore hypothesized that the plant may have immunostimulant properties. Macrophages have an important role in defense against fungal infections such as candidiasis. Active components such as polysaccharides, lectins, proteins and peptides present in plants have been shown to stimulate the immune system. The aim of this study was to investigate the immunostimulatory effects of the aqueous, ethanol and acetone extracts of *Heracleum persicum* (*H. perscium*) on murine peritoneal macrophages *in vitro*.

Mouse peritoneal macrophages were treated with various concentrations of *H. perscium*. The viability of macrophages was evaluated using *MTT assay* and nitric oxide production *(NO)* was assayed using *Griess method*. The *ROS (Reactive Oxygen Species)* production and Fungicidal activity were evaluated by *NBT assay* and *killing* method respectively.

A significant increase in *NO* production by macrophages has been observed using the aqueous extract of *H. perscium* ($p<0.05$). Moreover, *H. persicum* had an inducing effect on the levels of *ROS* ($p<0.000$) and a strong fungicidal activity in treated macrophages with 20 mg/ml ($P < 0.036$).

The aqueous extract of *H. perscium* cause significant immunostimulatory activity, using *NO assay*, *NBT assay* and *killing*, on *C. albicans*. To clarify the exact mechanisms of this activity more study should be done with isolated immunostimulator agents.