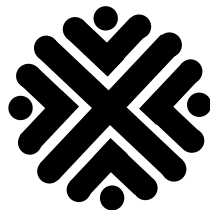


## Abstract

Common bean (*Phaseolus vulgaris* L.) has the most under – cultivation areas among cereals in the world and is very important because of having 22% protein in food diet. *Rhizoctonia* root rot and crown rot of bean caused by *R. solani* is one of the most important diseases of this crop in Iran. Root - knot nematode *Meloidogyne javanica* is the most causal agent of many crops especially bean. Interaction of these microorganisms has been studied in different hosts by investigators in the world.

Since the presence of these pathogens in bean seedlings were approved in Tehran province. In this study *R. solani* AG<sub>4</sub> isolates were prepared from Tehran University and were cultured on PDA medium. Second stage juveniles (J<sub>2</sub>) of nematode were used as the source of inoculum and were prepared from Shahed University Tehran and were reared on tomato seedling var. Rutgers. In this study seedlings of bean cultivars, Bahman, Daneshkadeh, Dehghan, Naz, Sadaf, Sanray and Sayad, were transplanted to pots containing 1000g of sterilized sand loam soil. In this experiment a factorial completely randomized design (CRD) with 9 treatments and 3 replications was conducted in a greenhouse. Treatments were as follows: control, nematode alone, fungus alone and nematode+fungus (simultaneously). Pots were inoculated with (0, 1000, 2000) J<sub>2</sub> nematode and/or (0, 5, 10 no/g soil) propagules of fungus according to the treatments. Pots were arranged in glasshouse benches with the temperature of 25-27°C and natural light. Experiment was terminated after 2 months and following parameters were determined i.e., dry weight of root and stem, plant height, no. of galls and egg masses per root system, and necrosis of root tissue and disease incidence by fungus. Results showed that presence of nematode caused reduction on colonization of the fungus in the root and stem and vice versa i.e., presence of fungus caused reduction on no. of galls and egg masses produced by the nematode in all treatments. Maximum disease incidence was observed in Dehghan and Sadaf cultivars. Minimum disease incidence was observed in fungus alone treatment of Sayad cultivar. Maximum no. of galling and egg mass in root system were in cvs. Daneshkadeh, Sadaf, respectively.

**Keyword:** Pathogenicity, *Rhizoctonia solani*, *Meloidogyne javanica*, bean



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**Pathogenicity interaction of *R. solani*  
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varieties**

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