

**Project Title** : Investigations on Effects on Plant Growth and Determination of Plant Parasitic Nematodes Found in Wheat Fields in the Aegean and Marmara Regions

**Start /End Date** : 2002-2006

**Supporting Body** : GDAR

**Leader** : Bilge MISIRLIOĞLU

**Co-researchers** : Esat PEHLİVAN

**Summary** : In this study, important plant parasitic nematode species found in wheat growing areas in the Aegean and Marmara Regions were determined and their effects on plant growth were investigated between the years of 2002-2005. Survey studies were carried out in Aydın, Balıkesir, Çanakkale, Denizli, İzmir, Kütahya, Manisa, Muğla, and Uşak provinces and totally 213 soil samples were collected. 84.97%, 73.23%, and 7.04% of the total samples were infested by *Geocenamus* spp., *Pratylenchus* spp., and *Heterodera* spp., respectively. In addition, *H. avenae* Wollenweber, *P. thornei* Sher and Allen, *P. neglectus* Filipjev and Shuurmans-Stekhoven, and *G. brevidens* (Allen) Siddiqi, known to cause severely damage on wheat, were identified in wheat growing areas. The population densities of *P. thornei* were found higher than economic threshold. It was concluded that this species could have economic damage potential on wheat in the Aegean and Marmara Regions.

The field experiments were conducted in the plots naturally infested with plant parasitic nematode species in Gönen (Tahirova). The experiments were arranged according to randomized block design with 6 characters and 5 replications. The population dynamics and the effects on plant growth of the nematodes were observed during growing seasons on Basribey, Cumhuriyet 75 and Golia varieties. The population densities of the nematode species in treated plots were usually found lower than that in untreated plots.

As a result of this study, it was concluded that Basribey and Golia varieties could planted the fields infested by the nematode species under the Aegean Region conditions. However it was not found significant differences in investigated traits statistically between the varieties, it was determined that using of nematicide affected the yield increase of wheat.