

Effect of antagonistic yeasts isolated from pistachio orchards against *Aspergillus flavus*

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Abstract

The adverse effects of food contamination by fungal species and their toxins on humans and animals led to set up several regulations and legislations throughout the world. Several methods may apply to reduce and manage the contamination of food and feed to aflatoxins. In recent years, application of biological agents as stable and environmentally friendly has been emphasized. The aim of this study was to assess the competitive ability of yeast on *Aspergillus flavus* growth. Sampling was done from pistachio orchards in different pistachio producing areas. A serial dilution method and YMA medium were used to isolate the yeast. Single colony yeast was used in the experiments. Competitive ability of the yeasts to inhibit growth and biomass production of *A. flavus* were assessed using dual culture method and non-volatile compounds. The results showed that the most yeast strains were able to inhibit the fungal growth and biomass of *A. flavus* although to different degrees. Among these strains, 13 strains showed the highest effects using the estimated parameters such as growth, sporulation and biomass production. The inhibitory effects of saprophytic yeast have shown promise as biocontrol agents against mycotoxigenic fungi.