



Endophytic fungi from wheat (*Triticum aestivum* L.) from the three regions of Turkey

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Abstract

Endophytes are microorganisms that form symptomless infections within healthy plants tissues. Fungal endophytes were isolated from leaves, crowns and ears of healthy wheat plants from 180 fields of 15 provinces of northern, western and central Anatolia regions of Turkey during the 2009 and 2010 growing season. Wheat is the first largest food crop in Turkey. It is very important to study on wheat-endophyte interactions for the utilization of benefits of endophytes. It was found that spreading endophytic fungi in each organ of wheat plants quite different. While, *Alternaria*, *Penicillium*, *Stemphylium*, *Fusarium*, *Aspergillus*, *Ulocladium*, *Epicoccum*, *Acremonium* and *Pythium* spp. were showed the highest colonization frequency in crown tissues, *Alternaria*, *Stemphylium*, *Penicillium*, *Epicoccum*, *Ulocladium*, *Nigrospora*, *Torula*, *Septonema*, *Aspergillus* and *Phaeoseptoria* spp. were showed highest colonization in leaves and *Alternaria*, *Stemphylium*, *Penicillium*, *Cladosporium*, *Ulocladium*, *Epicoccum*, *Fusarium*, *Popularia*, *Nigrospora* and *Trichoderma* spp. were showed the highest colonization in ears. In the pathogenicity test, crown parts of 15 day-old seedlings were inoculated with the 52 isolates of 12 fungal genera from isolated crown tissues of wheat plants. Some plants have very limited discolorations in stem tissues those were inoculated some fungi such as *Bipolaris*, *Acremonium*, *Cladosporium* sp. etc. The analysis of variance was used to stabilize variance. Some isolates might have a potential as biological control agents, which were in the same group of negative controls. We are studying on effects on plants weights and heights of endophytes.