

**A study on properties of Deoxynivalenol (DON) production in culture medium by  
Aspergillus Spp. isolates from Northern Iran**

ABSTRACT

The increased fungi contaminations and related damages cause disease through production of toxins in animals and thus in humans. Since they are not easily distinguishable, then it is crucial to study their characteristics. Aspergillus are among the most important toxigenic fungi that are found abundantly in northern Iran habitat which is one of most important habitat of Iran and is the main source for many feed and food stuffs in the state. Hence, we aimed to study on properties of deoxynivalenol (DON) production in culture medium by 24 Aspergillus spp. isolates from northern Iran. Samples were collected from Northern Alborz and Southern Caspian Sea agricultural plants cultivation areas and processing centers. Samples were then isolated and identified based on CBS environmental sampling rules and ICPA diagnostic standards. They were cultured to stimulate the toxin production until the targeted toxin to be measured at culturing substrate and fungi biomass. Afterward, they were exposed to extraction and existing DON size were measured by ELISA technique Our results indicated that in addition to Fusarium, genus Aspergillus has a potent ability to produce DON toxin or alike molecules. However, validation of this issue needs further studies, in particular, by using advanced biochemical or genomic molecular techniques.

**Keyword:** Culture medium; Deoxynivalenol (DON); Aspergillus spp