

Bölüm 1

AFLATOKSİNLER

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GİRİŞ

Toksik sekonder metabolitler grubunda değerlendirilen mikotoksinler toprak da dahil olmak üzere tüm ekosistemlerde yaşayabilen mantarlar tarafından üretilmektedir. Ortam sıcaklığı ve neminin uygun olduğu çevresel koşullar mantar gelişimini ve toksin üretimini teşvik eder. Mikotoksinler aflatoksinler, fumonisinler, okratoksinler, trikotesenler, zeranol ve ergot alkaloidleri olmak üzere altı sınıfa ayrılırlar⁽¹⁾. Uluslararası Kanser Araştırma Ajansı (IARC) insanda kanserojen etkisi resmi olarak ispatlanmış olan birçok mikotoksini Grup 1 (AFB1, AFB2, AFG1 ve AFG2) ve Grup 2B (OTA, FB1 ve FB2, AFM1) olarak sınıflandırmıştır⁽²⁾.

Mikotoksinler, gıdalarda çiğ materyal kontaminasyonunun bir sonucu olarak ya da hasat edilmeleri, depolanmaları ve işlenmeleri esnasındaki uygulama eksiklikleri nedeniyle oluşur⁽³⁾.

Mantarlar tarafından üretilen mikotoksinler, tüketmekte olduğumuz işlenmiş tahılların ve aynı zamanda tahılların %25 oranındaki kısmını kontamine etmektedir. Mikotoksinler arasındaki en toksik olan grup aflatoksinlerdir⁽⁴⁾. Aflatoksinler, bazı aspergilli'ler tarafından sentezlenen düşük moleküler ağırlıklı sekonder metabolitlerdir⁽⁵⁾. Mısır, darı, pirinç, yer fıstığı, fındık, incir, zencefil, hindistan cevizi ve sütü kirlettiği bilinen *Aspergillus flavus*, *Aspergillus parasiticus* ve *Aspergillus nomius*, karaciğer için kanserojen olan aflatoksinleri üretir^(6,7). Sıcak ve nemli bir iklime sahip tropik coğrafyaların aflatoksin üreten küflerin difüzyonunu desteklediği iyi bilirse de, kontaminasyon genellikle meteorolojik koşullar, çevresel faktörler ve ürünlerin yanlış hasadı ve depolanması gibi uygun olmayan tarımsal uygulamaların kombinasyonundan kaynaklanmaktadır. Aflatoksinlere dolaylı maruz kalma, insan ve hayvan sağlığı için bir endişe kaynağıdır; çünkü bu bileşikler, hamilelik veya emzirme döneminde yavrulara veya süt, yumurta ve et gibi kontamine ürünler ile diğer türlere aktarılabilir⁽⁸⁾.

Aflatoksinler ilk olarak 1960 yılında, İngiltere'de birkaç ay içerisinde çok sayıda hindinin ölümü ile keşfedilmiştir ve "Turkey-X hastalığı" olarak adlandırıl-

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