**ABSTRACT**

Mycotoxins are toxic secondary metabolites that are commonly produced by certain fungal species. They pose significant threats to global food safety and public health. The historical context of mycotoxin contamination highlights their longstanding impact on health and agriculture. This chapter provides a comprehensive overview of mycotoxins, as it explains their various types, sources, health effects, and regulatory standards. Detection and analytical methods, including high-performance liquid chromatography (HPLC), enzyme-linked immunosorbent assay (ELISA), and emerging biosensor technologies, are also explored. Regulatory frameworks at international and national levels as well as prevention and control strategies for mycotoxin contamination are also studied. By synthesizing current knowledge and identifying gaps in research and regulation, this chapter underscores the critical importance of addressing mycotoxins in the context of global food safety. The chapter concludes with an explanation on global initiatives and future research directions, emphasizing the need for continued vigilance and international cooperation to effectively manage and mitigate the risks posed by mycotoxins.