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Sommario/riassunto	<p>Health and safety of food and feed are the most important criteria for their quality. The quality of feed is in turn important for animal health, the environment and for the safety of food from animal origin. Fungi belonging to the Fusarium genus are widespread in crops causing plant diseases and producing toxic metabolites. Fusarium species can colonize plants during their growth on the field and cause serious damage in terms of yield and quality of harvested grains. One of the most important fungal diseases of wheat and other cereals in the world is Fusarium head blight caused by the fungal pathogens <i>Fusarium graminearum</i> and <i>Fusarium culmorum</i> and others. In addition, these fungi produce mycotoxins, contaminating food and feed. The most important Fusarium mycotoxins include trichothecenes, zearalenone and fumonisins, primarily because of their prevalence, but also because of the toxic effect to humans and animals. However, these fungi produce also other mycotoxins such as moniliformin, beauvericin, enniatin or fusarins. Food and feed can be contaminated with mycotoxins at various stages in the production chain resulting in serious problems with health, safety and economic losses. It is estimated that 25% of the crop in the world each year are contaminated with these metabolites, the problem affects both industrialized countries and developing countries. The aim of this Research Topic of Frontiers in Microbiology is to publish state of the art research about occurrence and genomics of Fusarium species and their mycotoxins in</p>

the whole food and feed chain starting from the crops as well as implications for health and economic aspects. This research topic highlights the current knowledge on the plant diseases caused by *Fusarium* fungi as well as all aspects of *Fusarium* mycotoxin contamination of crops, food and feed, taking into account decontamination methods.

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