

Feed and Food Safety Aspect of Mycotoxins

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Abstract

Mycotoxins, secondary metabolites of microscopic fungi or moulds, are contaminants of feeds and consequently in foods of animal origin. Those are major problem all over the world because most of the mycotoxins, even at very low quantity have been shown to induce signs of toxicity in mammalian and avian farm animal species and humans. It has been estimated that 25% of the world's crop production is contaminated with mycotoxins, and some of them have importance even in South-East Asia, such as aflatoxins, ochratoxins, zearalenone, deoxynivalenol and fumonisins. In most cases these mycotoxins can be found in combination in contaminated feed. The above mentioned mycotoxins have detrimental effects on production traits and health, in particular immune response, of farm animals and they also accumulate in different animal origin foods, such as milk, egg, meat or other edible tissues, such as liver or kidney. Rate of accumulation of mycotoxins in different products depends on the exposure (intake of mycotoxin contaminated feeds) and the species and age of farm animals. There are numerous data about the accumulation of mycotoxins in different tissues or products, but in some cases mycotoxins are present in products in metabolised, and some cases in "masked" forms. Most of the metabolites are also toxic, sometimes more toxic than the initial compound and in most cases the synergistic effect among them is not known. Therefore adequate food quality control methods require for accurate determination for mycotoxins and their toxic metabolites. There are legal limits of mycotoxins in feeds and also in foods in all over the world, therefore human exposure with animal origin feeds can be kept at safe level.

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