Reducing aflatoxin excretion in milk

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Aflatoxins are metabolites produced by mold fungi such as Aspergillus flavus and A. parasiticus under certain conditions. The most abundant aflatoxin, aflatoxin B1, is a potent carcinogen and it is considered the most toxic naturally occurring toxin.

After ingestion, aflatoxin B1 is bio-transformed into the secondary metabolite aflatoxin M1 and excreted in milk, urine and feces. Due to their importance on possible health consequences on humans, in the United States, the Food and Drug Administration (FDA) has limited the concentration of this metabolite in milk to a maximum of 0.5 ppb. In Europe; however, the maximum milk aflatoxin M1 concentration allowed by the European Commission is ten times lower (0.05 µg/kg).
Traditionally, sequestering agents are used to reduce the toxicity of aflatoxins in dairy cattle diets. These additives bind aflatoxin in the gastrointestinal tract and reduce its **bioavailability**.