Mycotoxin contamination of grains - a review of research in Indonesia

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Abstract

Mycotoxins affect the agricultural economies of many countries, interfere with trade, reduce animal production, and affect human health. The five most agriculturally-important mycotoxins are aflatoxin, ochratoxin, deoxynivalenol, zearalenone, and fumonisin. Moulds that produce aflatoxin grow more frequently in warm climates, and grains originating from tropical countries such as Indonesia are frequently contaminated with aflatoxin. Food survey in West Java, Indonesia, showed that many market foods, particularly peanut-based products, contained aflatoxin in high concentrations. The tropical climate and traditional processing methods favour contamination of peanuts by aflatoxin-producing moulds. Research has concentrated on the effects of various processing methods, including fermentation, oil extraction, peanut butter processing, and irradiation, on the aflatoxin contents of peanuts, and the effect of fumigation on the aflatoxin contents significantly. However, depending on the concentration of aflatoxin in the raw materials, and the processing method, the final products may still contain aflatoxin in concentrations harmful to humans.