

Biosecurity not always about infectious disease

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Biosecurity risk is not always about infectious disease. Health and those things that compromise health can include pests, threats to the environment, and toxins.

Take for instance the recent recall range of dog food products that are on retail shelves and in pet food distribution centers. The dog foods have been recalled due to high levels of aflatoxin being found in dry dog foods. Aflatoxin occurs naturally in corn products and is typically a mold by-product. The corn that was used in the dry food manufacturing was the culprit of this recall.

Aflatoxin is a naturally occurring mold by-product. While dogs are sensitive to aflatoxin, they must consume relatively low levels (30-100 ppb) for 60-90 days prior to any clinical signs that include weakness, anorexia, vomiting and diarrhea. Some pets develop yellowing of the eyes, pinna of ears and hairless regions of the abdomen. Aflatoxin has its primary affect on the liver. High levels of 1000 ppb can produce clinical signs in 48-72 hours. Dogs can and do recover when the offending food is removed. Owners are being advised to take pets exhibiting clinical signs to see a veterinarian.

Aflatoxin has a regulatory legal limit of 20 parts per billion (ppb) in dog food.

Aflatoxins are a group of related compounds produced as secondary metabolites of various fungi, including *Aspergillus parasiticus*, *A. flavus*, *A. nomius*, and some *Penicillium spp.* Aflatoxins are not produced by all strains of these fungi. The most common aflatoxins in grains are named, in part, for their fluorescent color: aflatoxins B1 and B2 fluoresce blue and aflatoxins G1 and G2 fluoresce green. Aflatoxin B1 is the most common and most potent of the aflatoxins.

Aflatoxins are potent human carcinogens.

In 2011, drought in many corn-growing areas of the US has damaged the corn crop and conditions have been right for production of toxin.