



Aveve Biochem

Ayurvet

CID Lines

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Jefo

LUBING

Novation

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Nutriad

Technical Systems

WEDA

Introduction

Mycotoxins are the metabolites (waste products) from mould/fungal growth in grains, forages and feeds. Mycotoxins can affect the pig in a variety of ways, producing a variety of lesions, clinical signs and consequences which are reflected in reduced performance, productivity and profits.

To date, over 300 mycotoxins are known but the six most important ones for pigs are aflatoxin B1, ochratoxin A, deoxynivalenol, ergot, fumonisin B1 and zearalenone. The vast majority of mycotoxin problems in pigs involve the grain component of their diet.

Fungal growth requirements

Fungal growth requires a source of carbohydrate (grains), moisture, oxygen and temperature (usually 12-25°C). Plant stressors, mechanical harvesting damage, insect damage and reduced plant vigour predispose crops to toxigenic fungal infections and mycotoxin formation.

Unfortunately, toxigenic fungi can occur in grains with no mycotoxin production and there is little, if any, correlation between fungal spore counts, amount of fungal growth and the presence of mycotoxin. The only safe way to assess the status/risk of a particular feed component or feed is to test it for the actual mycotoxins.

Conversely, the absence of fungi does not guarantee mycotoxin freedom because the high temperature pressure combinations used in milling and pelleting can kill off the moulds, while the relatively heat stable mycotoxins survive the process. In some distillers the mycotoxins can be concentrated threefold.

Thus, the control of mycotoxin related problems starts well before the feed reaches the farm and focuses on crop management, grain storage and the use of anti-mycotoxin products in the feed.

Mycotoxin formation

Field fungi, such as *Fusarium* Spp., produce mycotoxins when there is high relative humidity (>70%) or grain moisture (>22%). Storage fungi (*Aspergillus* Spp. and *Penicillium* Spp.) can produce mycotoxins when the grain is moist (12-18% moisture) and temperatures are between 10 and 50°C.

There are now computer models for predicting the likelihood of mycotoxin production based on rainfall, temperature and insect damage.