nufense

Mycotoxin Management Solutions

gold

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ISO 22000:2018
742/T

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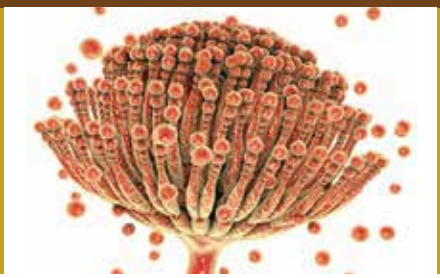
Solutions for the Mycotoxin Challenges

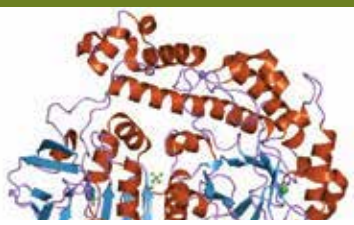
Mycotoxins are secondary metabolites of low molecular weight produced by fungi, mostly by saprophytic moulds growing on a variety of feed and foodstuffs (Turner et al., 2009).



Contamination of feeds with mycotoxins is a worldwide problem with serious impact on livestock production. Mycotoxin -detoxifying agents are used to control their negative effects.

nufense gold

- Mineral clays with a selective polar binding capacity
- Dry Yeast Cell wall
- Specific enzymes DON, FUM, OTA, ZEN and T-2
- Natural bioactive ingredients



The **blend of mineral clays** used is involved in many biochemical processes through ion exchange, adsorption and catalysis with a highly sorbitive capacity and enhanced hydrophilic (anti-diarrhea) and oleophilic (toxin-binding) activity.

Dry Yeast Cell wall: a premium yeast fraction rich in β-glucans and mannan oligosaccharides (MOS). It prevents colonization of the GIT by pathogens, stimulates the immune activity of the phagocytic cells and enhances the action of beneficial bacteria.

nufense gold contains biologically specific active enzymes and glucans that have the capability to deactivate mycotoxins.

Natural bioactive ingredients: mycotoxins not only reduce animal performance, but they also cause significant liver damage. Certain mycotoxins have a strong hepatotoxic and hepatocarcinogenic effect in exposed animals. **nufense gold** contains natural phenolic compounds **(lyophilized hydroxytyrosol and oleuropein)** with proven anti-inflammatory and antioxidant activity that protects liver from the free radical damage produced by mycotoxins.

Aiming to determine the mycotoxin detoxifying activity of **nufense gold** in feed, a mycotoxin eliminating analysis was carried out. Two pH values (pH=4.5, pH=7.5) were tested, simulating gastric and intestinal juice. In order to determine the mycotoxin eliminating efficiency of the product during the transition in the gastrointestinal tract, 6 incubation times were used (0,30,60,120,240 and 300 min). The mycotoxin concentration was calculated using HPLC-DAD chromatographic analysis.

Results:

- Strong adsorption efficiency: Aflatoxin concentration decreased by more than 95% for 30 min incubation time.
- High elimination efficiency: mycotoxins DON, FUM, OTA, T-2 and ZEN were eliminated by more than 90% in contrast with control diet.

	Trilogy USA	University of Veterinary Medicine Budapest				
	AF1	ZEN	OTA	DON	FUM	T-2
% Efficiency	99.6	95,4	94.5	96,8	93,8	100
Toxin conc.	4000 ppb	500 ppb	1000 ppb	2000 ppb	10000 ppb	500 ppb

Dosage for all species: 1 kg / ton of feed

Note: Dosage depends on the mycotoxin risk level

EURL European Union Reference Laboratory

EURL Method:
Adsorption of 4000 ppb AB1 with 0,02% product at pH 5.0