

TOXINOR[®] TOXIWALL[®]

Mycotoxin Binders

Mycotoxins are products of the secondary fungi metabolism. Usually, they can be accumulated in cereals during cultivation, transport and storage

Their presence in feed results in serious economic losses

TOXINOR® is an inorganic mycotoxin binder with a carefully selected active components combination

It exhibits a wide capacity of mycotoxins adsorption and also maintains high stability versus temperature and pH

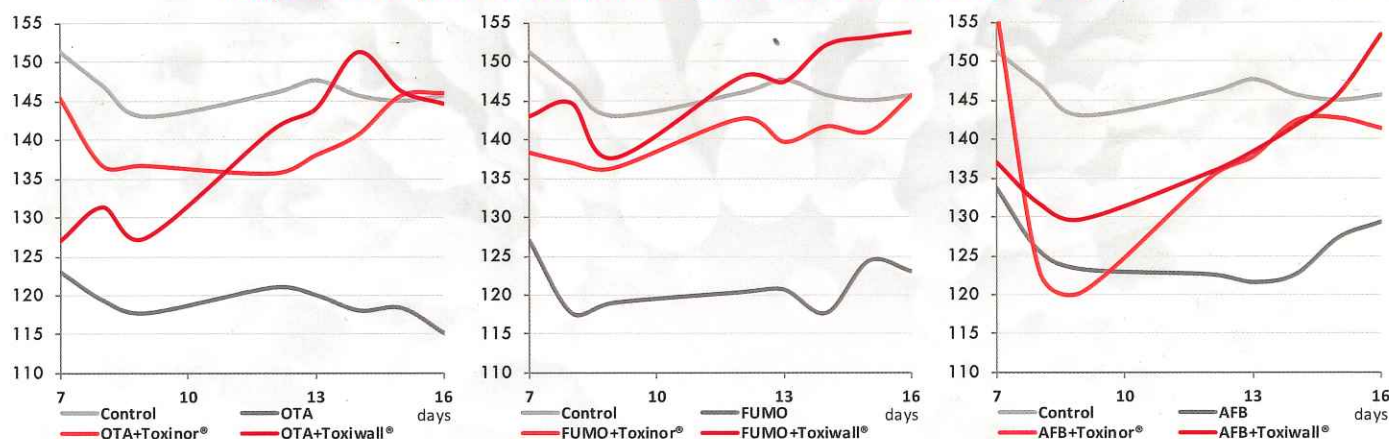
TOXIWALL® is a mycotoxin binder that combines mineral components with different structure and yeast cell walls

It is active against ZEN, Aflatoxin, Ochratoxin and T-2 (Raju and Devegowda, 2000), providing a "step ahead" in prevention of mycotoxin contamination

CYTOPROTECTION AGAINST MYCOTOXINS

- ✓ **TOXINOR®** and **TOXIWALL®** restore intestinal epithelium integrity when mycotoxins are present. Such integrity is determined by Transepithelial Electric Resistance (TER), where higher results will indicate better intestinal health

TER (Ohm x cm²) % with Ochratoxin A, Fumonisine B1 and Aflatoxin B1



Ortiz A, Romero A, Martínez MA, Ramos E, Irma I, Martínez-Larrañaga M, Anadón A, Mallo JJ
TOXINOR® and **TOXIWALL®** protective effect on mycotoxin-induced Transepithelial Electrical Resistance reduction in Caco-2 cells
 Poultry Science. 2015; 94 (E-Suppl. 1): 72

STABLE AND ACTIVE AT DIFFERENT pH RANGES

- ✓ High adsorption capacity regardless of pH

Mallo JJ, Gracia MI, Sánchez J, Honrubia P

Comercial mycotoxin binder evaluation *in vitro*. Efficiency of **TOXINOR®** against of Zearalenone, Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, Aflatoxin G2, Aflatoxin M1, Ochratoxin A, Toxin T-2 and Fumonisine 1

TREATMENT	Value (pH 4)	Value (pH 7)
AFLATOXIN B ₁	99.86	99.64
AFLATOXIN B ₂	99.96	99.80
AFLATOXIN G ₁	100	100
AFLATOXIN G ₂	99.87	99.74
AFLATOXIN M ₁	100	100
OCHRATOXIN A (OTA)	93.25	95.69
ZEARALENONE	100	100
FUMONISINE ₁	100	69.3
TOXIN T-2	90.10	92.61

RESISTANT TO PELLETING PROCESS AND HIGH TEMPERATURES

- ✓ Due to the product nature, it is not affected by high temperatures commonly used in granulation and extrusion

PRODUCT	COMPOSITION	DOSE	EFFICACY	HANDLING
TOXINOR®	Bentonite-montmorillonite, kieselgur and sepiolite	1-5 kg/t Max: 20 kg/t	Wide spectrum mycotoxin binder	Non corrosive and odorless powder
TOXIWALL®	Bentonite-montmorillonite, kieselgur and yeast walls	0.5-1 kg/t Max: 2.5 kg/t	Wide spectrum mycotoxin binder	Non corrosive and odorless powder