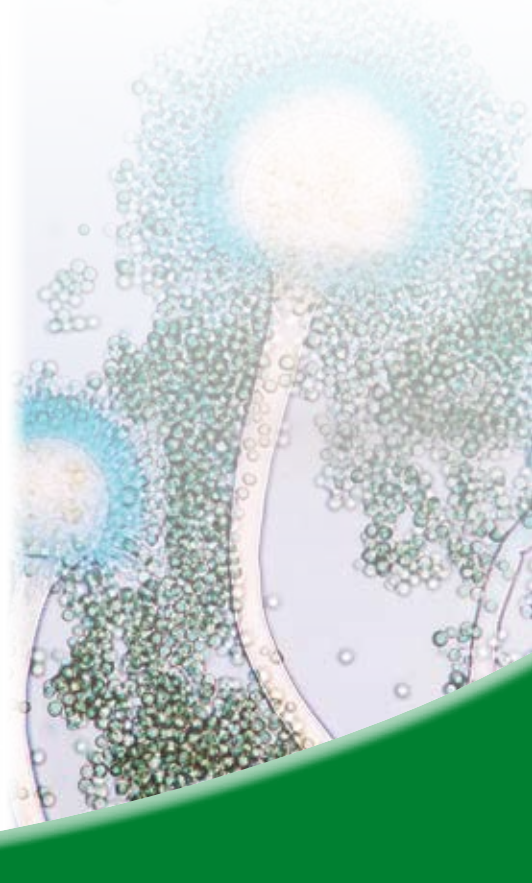




Mycotoxin Risk Management!



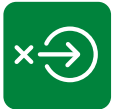
Naturally ahead

≡ **Biomin** [®] ≡

Research and Development

A number of approaches to control mycotoxins have been attempted. Due to the large number of toxins that exist and their interactions, a single solution to the problem does not exist. Research shows that combining selected adsorbents with biotransformation and bioprotection methods will ensure effective protection in mycotoxin-contaminated feeds.

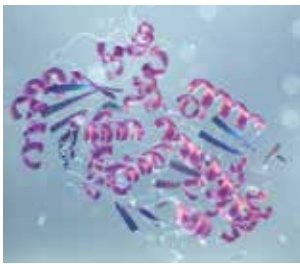
Three strategies to achieve one purpose



BIOTRANSFORMATION

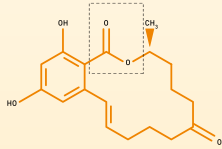
Elimination of toxicity

The non-suitability of functional groups towards adsorption renders this process unsuccessful for the counteraction of zearalenone, fumonisins, trichothecens, ochratoxins. A unique combination of patented targeted enzymes and biological components converts mycotoxins into non-toxic, environmentally-safe metabolites.



ZENzyme®

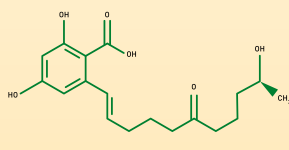
Detoxification of zearalenone by enzymatic breaking of the lactone ring.



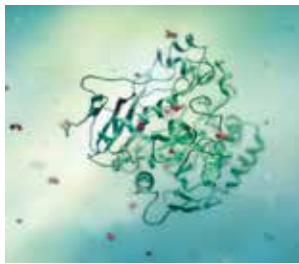
Zearalenone



ZENzyme®

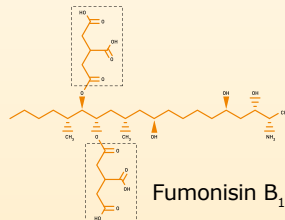


detoxified form



FUMzyme®

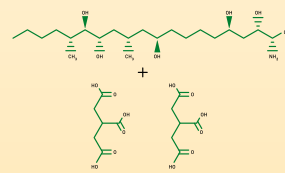
Detoxification of fumonisins by enzymatic cleavage of the diester bonds.



Fumonisin B₁

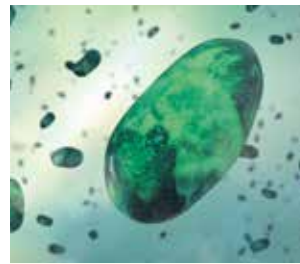


FUMzyme®



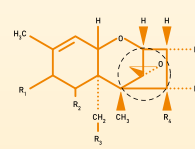
detoxified form

Regulation (EU) No 1115/2014,
No 2017/913, No 2018/1568,
No 2021/363



Biomin® BBSH® 797

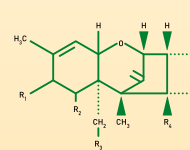
Detoxification of trichothecenes (like DON, T-2 toxin, ...) by enzymatic cleavage of the toxic 12,13-epoxy group.



Trichothecenes

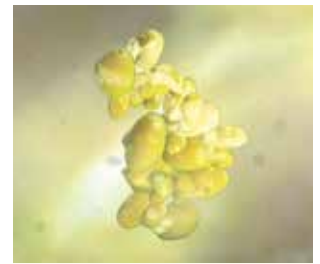


Biomin®
BBSH® 797



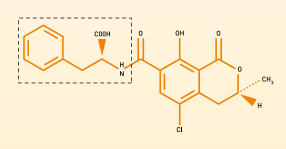
detoxified form

Regulation (EU) No 1016/2013
and No 2017/930



Biomin® MTV

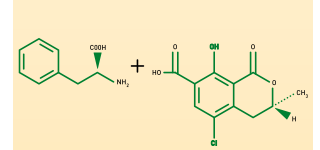
Detoxification of ochratoxin A by enzymatic cleavage of the amide bond.



Ochratoxin A



Biomin®
MTV



detoxified form

in Mycotoxin Risk Management

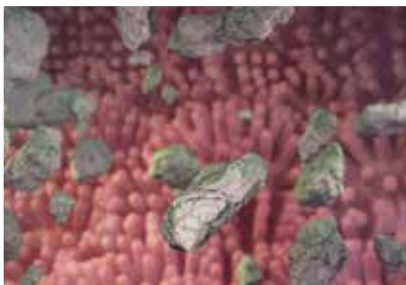


ADSORPTION

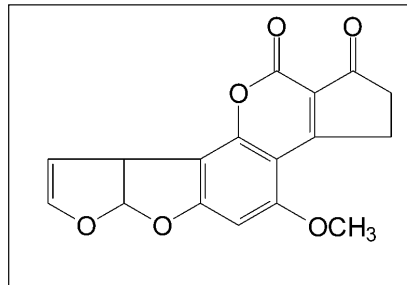
Elimination of toxins

A proper mycotoxin risk management strategy requires a thorough knowledge regarding mycotoxins' chemical structures and properties. Research on these topics together with the understanding of how adsorbing substances can alleviate the negative effects of mycotoxins in animals led to the development of a blend of minerals that immobilize adsorbable mycotoxins such as aflatoxins*, ergot alkaloids and other emerging mycotoxins in the gastrointestinal tract of the animals thus reducing their bioavailability.

*Regulation (EU) No 1060/2013



Premium blend of minerals



Aflatoxin B₁



BIOPROTECTION

Elimination of toxic effects

The Biomin® Bioprotection Mix is an innovative mix of natural ingredients that protects against a weakened immune system and lower performance caused by endotoxins and (emerging) mycotoxins. It provides immune and liver support, strengthens the intestinal barrier and tight junctions in the presence of mycotoxins.



An innovative blend of natural ingredients.

Our in-house research and development program at the BIOMIN Research Center is staffed by more than 110 scientists and researchers. It is supported by eight Centers for Applied Animal Nutrition and a research network of 200 academic and research institutions worldwide.

The long-term investment of BIOMIN into scientific research with state-of-the-art, high-tech laboratories conjointly with long-lasting external partnerships led to BIOMIN's unique and most effective mycotoxin risk management.

Hundreds of *in vivo* and *in vitro* trials, scientific publications and the successful, daily application of BIOMIN Mycofix® products in all sectors of the animal feed industry worldwide, attest BIOMIN as the expert in mycotoxin risk management.



BIOMIN R&D

www.biomin.net



Further information about BIOMIN and the latest news about BIOMIN's activities and solutions can be found here. Additional information is provided to be downloaded.

www.biomin.net

Mycotoxins.info



A scientific but concise overview on mycotoxin and mycotoxin-related topics. Useful information which can be used by researchers, animal husbandry and agricultural entrepreneurs or simply by mycotoxin-curious minds is provided.

www.mycotoxins.info



Mycofix® App

Get instant access to worldwide mycotoxin data!

app.biomin.net

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