



# Mycofix<sup>®</sup> 5.Z

Absolute protection



With ZENzyme<sup>®</sup>  
Faster and Better



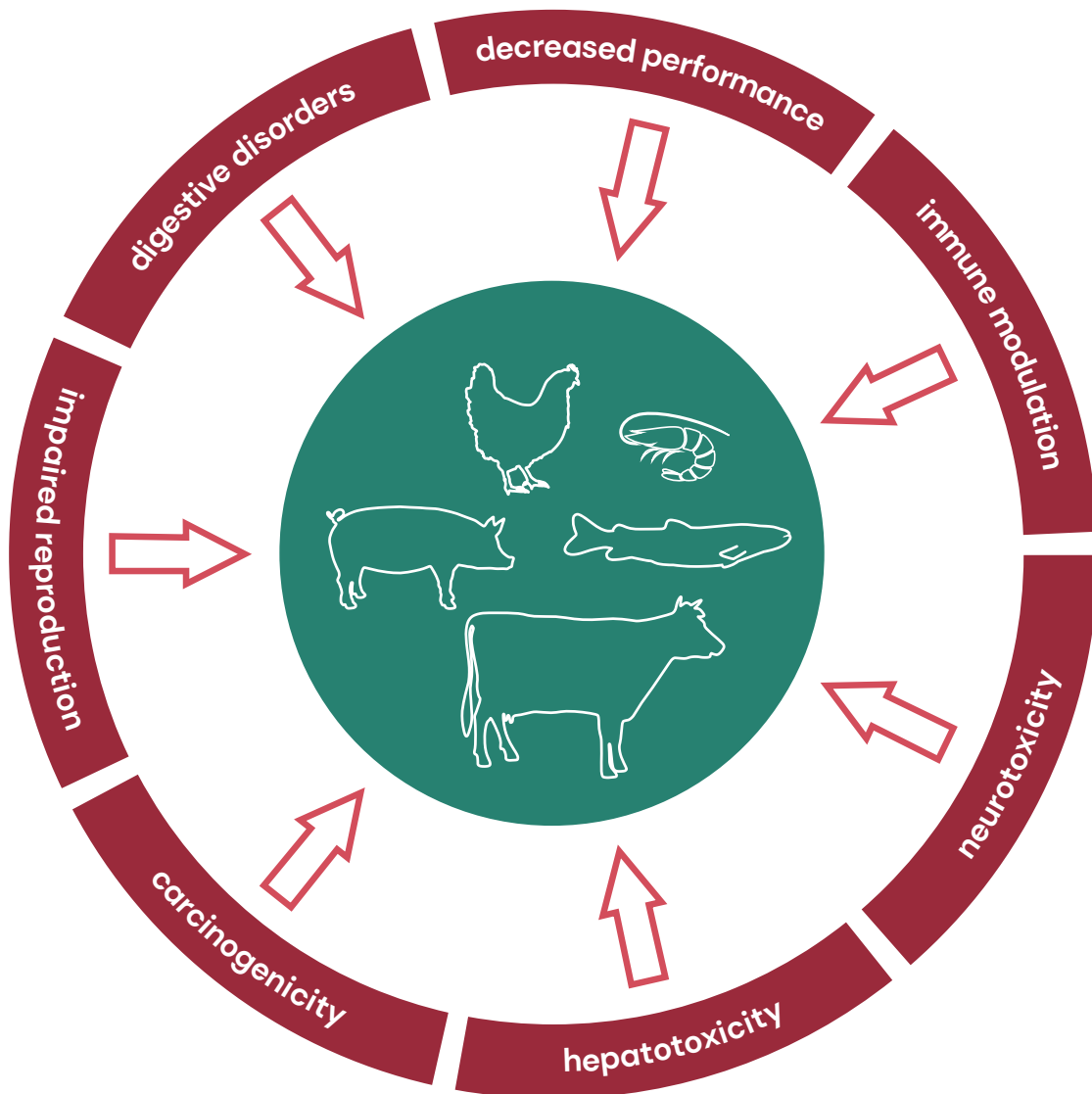
dsm-firmenich 

# Mycotoxins

## Harmful and widespread

Over 90% of all analyzed agricultural commodity samples contain one or more mycotoxins according to the latest BIOMIN Mycotoxin Survey.

Mycotoxins impair the health status and performance of animals. Negative effects include impaired reproduction, digestive disorders, weakened immune function, carcinogenicity, hepatotoxicity, neurotoxicity and decreased performance—in addition to higher production costs and lower profits for producers.

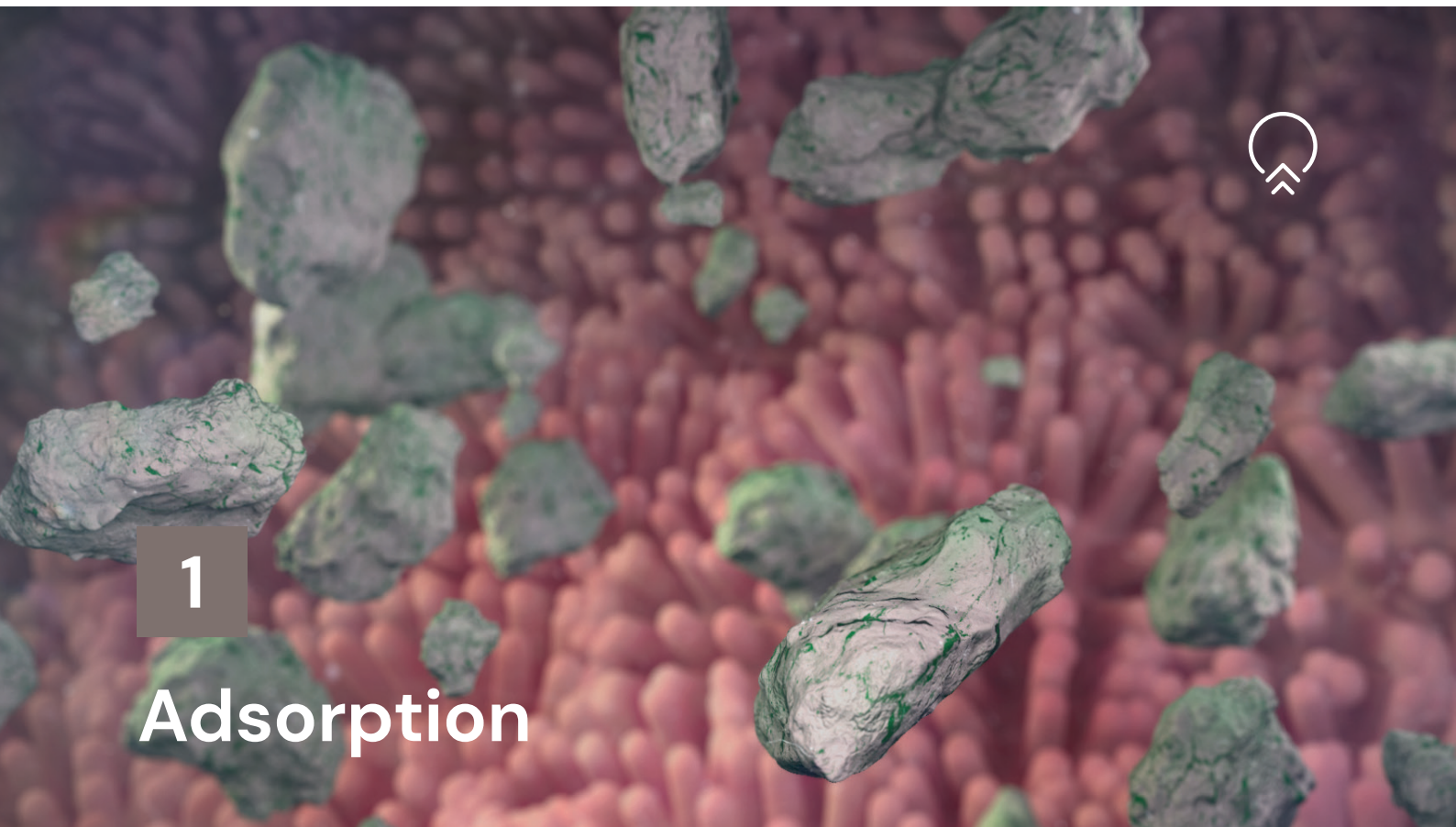


# 3 modes of action



## For the most complete mycotoxin risk management

Mycofix® Plus 5.Z unites three strategies to combat mycotoxins using patented proprietary technology, making it the most scientifically advanced mycotoxin protection available.



1

## Adsorption

Mineral adsorbents selectively bind adsorbable mycotoxins such as aflatoxins and ergot alkaloids as well as endotoxins.



Mycofix® contains EU authorized bentonite which binds more than 90% of aflatoxins, meeting the strict requirements set by the European Union Reference Laboratory (EURL).



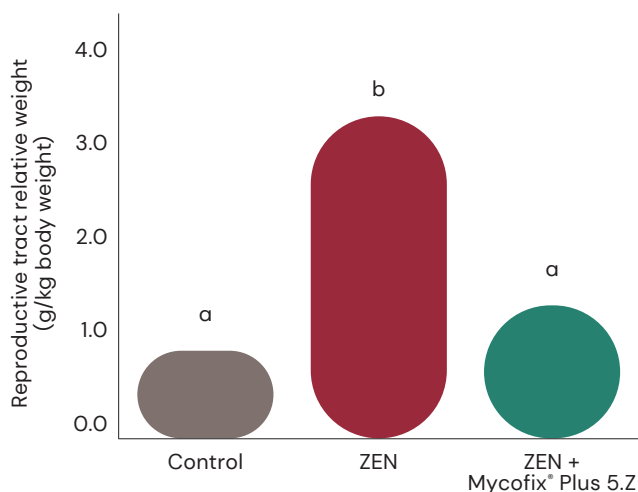
2

# Biotransformation

A unique combination of patented targeted enzymes and biological components converts mycotoxins into non-toxic, environmentally-safe metabolites.

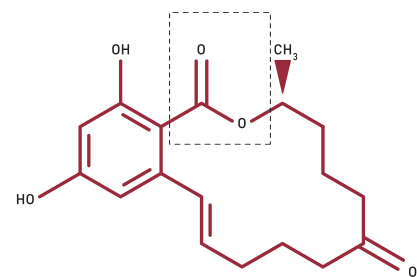
## ZENzyme®

The first and only purified enzyme that degrades zearalenone (ZEN) fast, specifically and irreversibly into non-toxic and non-estrogenic metabolites.

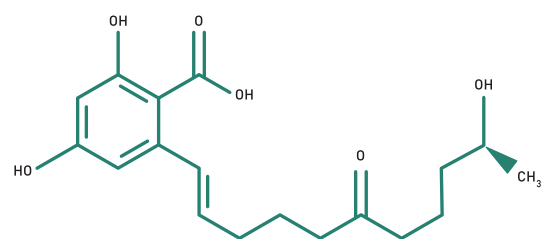


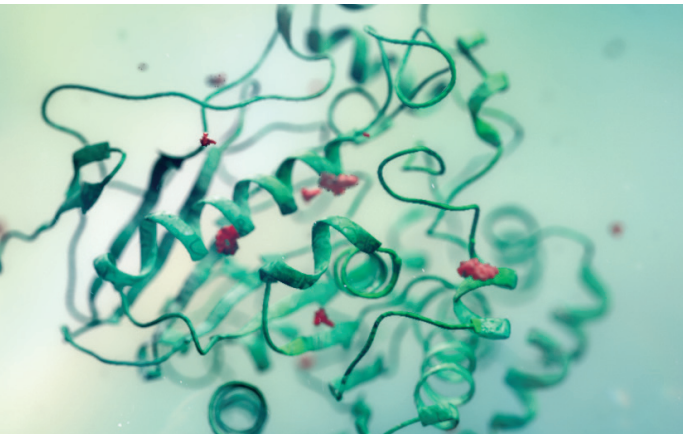
The relative weight of the reproductive tract is increased due to zearalenone (ZEN) indicating hyperestrogenism (red bar). This is counteracted by ZENzyme® (green bar) in Mycofix® Plus 5.Z (MPL 5.Z).

Different letters (a,b) indicate statistical significance ( $p < 0.05$ ).



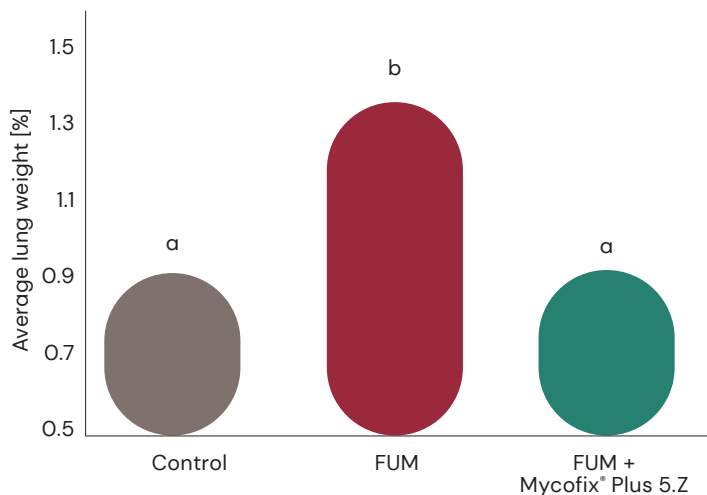
↓ ZENzyme®





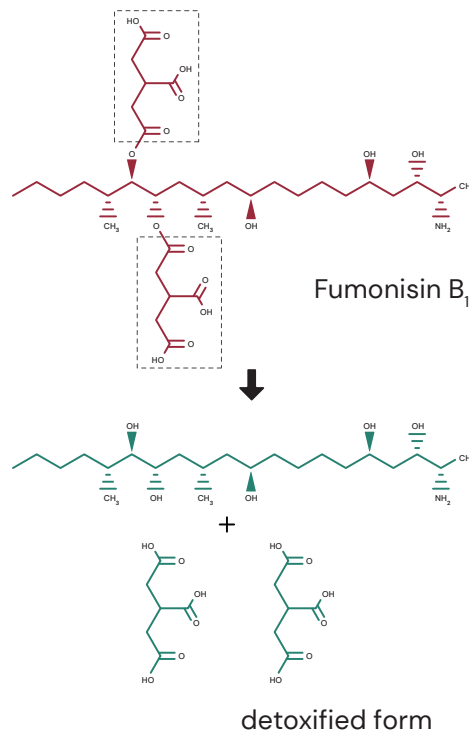
# FUMzyme®

The unique purified enzyme to degrade fumonisins (FUM) specifically and irreversibly into non-toxic metabolites.



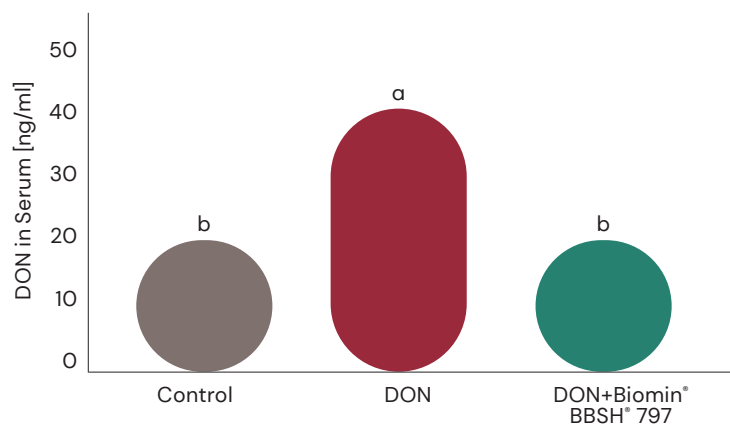
Detrimental effects on lung weight (orange bar) caused by fumonisins (FUM) are counteracted by EU authorized FUMzyme® in MPL 5.Z (green bar).

Different letters (a,b) indicate statistical significance ( $p < 0.05$ ).



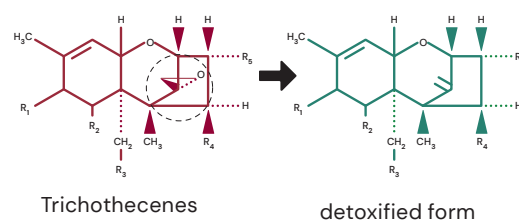
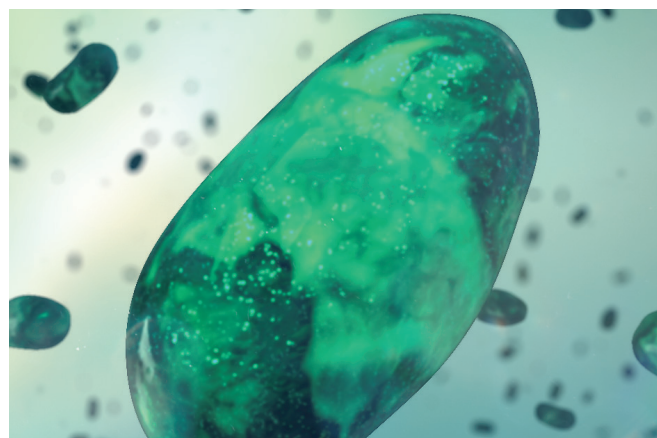
# Biomin® BBSH® 797

The microorganism that biotransforms trichothecenes (e.g. deoxynivalenol) into harmless metabolites.



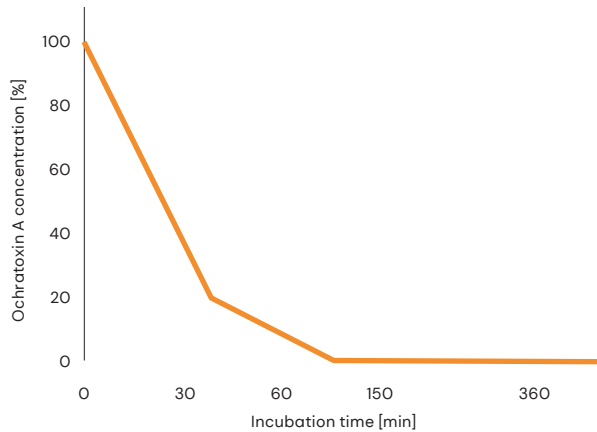
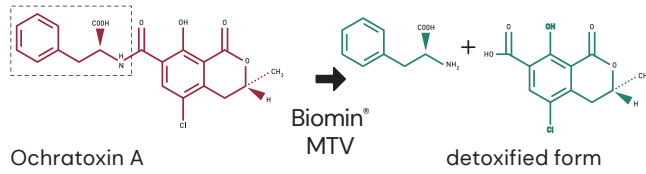
EU authorized Biomin® BBSH® 797 significantly reduces deoxynivalenol (DON) concentration in serum.

Different letters (a,b) indicate statistical significance ( $p < 0.05$ ).

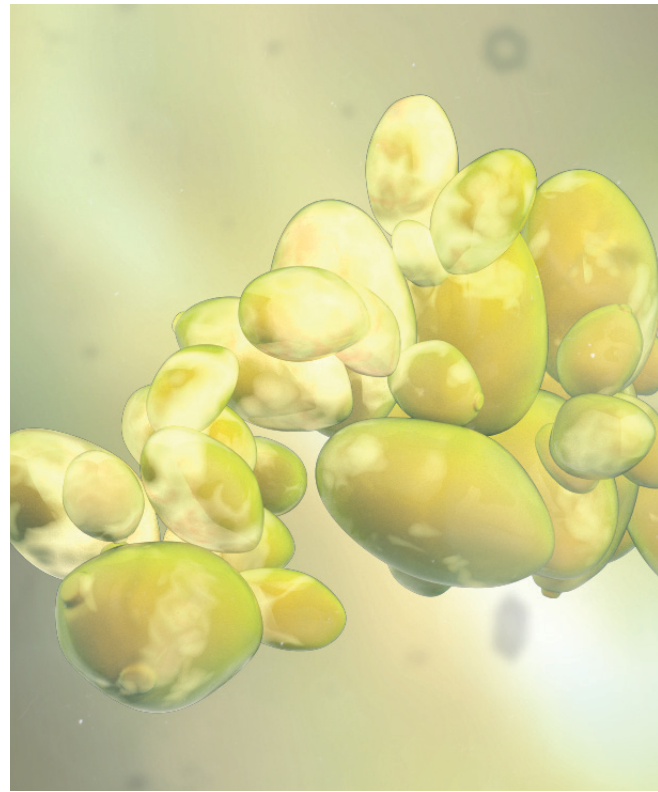


# Biomin® MTV

The patented yeast strain produces specific enzymes that degrade ochratoxin A into non-toxic substances.



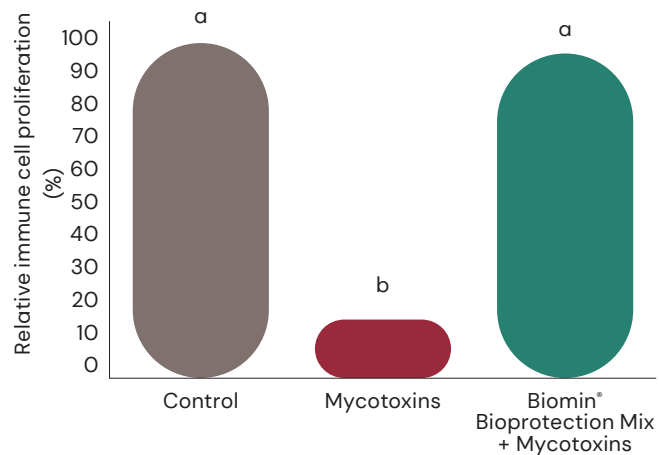
Biomin® MTV detoxifies ochratoxin A efficiently after only 30 minutes.



## 3

# Bioprotection

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.



BIOMIN® Bioprotection Mix prevents immunosuppressive effects of mycotoxins by optimizing activation of immune cells. Different letters (a,b) indicate statistical significance ( $p < 0.05$ ).

# Benefits of Mycofix® 5.Z

## Turning science into sustainable solutions

Mycofix® Plus 5.Z, an innovative, all-in-one feed additive that uses three modes of action – adsorption, biotransformation and bioprotection – to deliver absolute protection against mycotoxins.



1

### Faster and better zearalenone protection

ZENzyme® reduces zearalenone 1000 times faster to enhance reproductive performance.

2

### Combats a broader spectrum of mycotoxins

Mycofix® Plus 5.Z deactivates zearalenone, fumonisins, trichothecenes, ochratoxin A, aflatoxins, ergot alkaloids and emerging mycotoxins.

3

### Proven safety and efficacy

The only EU authorized and patented product ingredients proven to adsorb aflatoxins<sup>1</sup> and biotransform trichothecenes<sup>2</sup> and fumonisins<sup>3</sup> into non-toxic metabolites.

4

### Enhanced bioprotection

Mycofix® Plus 5.Z 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.

5

### Verified economic advantage

Mycofix® Plus 5.Z protects your profits by preventing mycotoxin-induced reproductive, health and performance issues.

<sup>1</sup>Regulation (EU) No 1060/2013

<sup>2</sup>Regulation (EU) No 1016/2013 and No 2017/930

<sup>3</sup>Regulation (EU) No 1115/2014, No 2017/913, No 2018/1568

# We bring progress to life



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