

# Mycosorb meta- analysis summary July 2022

## Meta-analysis of the effects of mycotoxins and yeast cell wall extract (YCWE, Mycosorb®, Alltech Inc., KY) supplementation on the performance, livability, and environmental sustainability of broiler production

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### Study overview



#### Key stats

A meta – analysis of 25 studies  
Studies carried out across 11 countries globally  
A total of 10, 307 birds  
Average Mycosorb inclusion of 1.3kg/t  
The first study of its kind in broiler production



#### What was measured?

Impact of mycotoxins on performance & efficiency of birds (BWG, FI, FCR, EPEF)  
Impact of mycotoxins on bird mortality  
Effects of feeding Mycosorb on these parameters  
Carbon footprint of broiler production with and without Mycosorb inclusion



#### What were the treatments?

**Control diet:** Treatment without detectable mycotoxins or minimal mycotoxin content  
**MT:** Mycotoxin contaminated diet  
**YCWE:** Mycotoxin contaminated diet + inclusion of Mycosorb

### Impacts of mycotoxins and effects of Mycosorb

#### The significant ( $p < 0.05$ ) impact of mycotoxins on bird performance and efficiency included:

- Lower total BWG in birds consuming mycotoxins compared to the control (-217.20 grams, average finishing period of 35.5 days)
- Higher FCR in birds consuming mycotoxins compared to the control (+0.12)
- Lower total FI in birds consuming mycotoxins compared to the control (-264.44 grams)
- Reduced EPEF compared to the control (-59.36)
- Higher mortality in birds consuming mycotoxins compared to the control (+2.07%)

#### When included during a mycotoxin challenge, Mycosorb significantly ( $p < 0.05$ ):

- Increased total BWG compared to the mycotoxin diet (+65.48 grams, average finishing period of 35.5 days)
- Lowered FCR compared to the mycotoxin diet (-0.05)
- Increased total FI compared to the mycotoxin diet (+99.39 grams)
- Increased EPEF compared to the mycotoxin diet (+16.81)
- Lowered mortality rates compared to birds consuming a mycotoxin diet (-1.74%).  
Mycosorb fed broilers restored mortality rate to the one observed for the unchallenged control birds.

### Mortality rate response compared to the control diet

Mycosorb fed broilers restored mortality rate to the one observed for the unchallenged control birds.

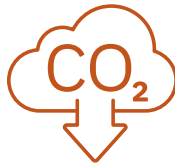
Mortality %	Control	Mycotoxins (MT)	Mycosorb
		3.52	5.59

### Comparing environmental footprint metrics

Parameters	Treatments			
	Control	Mycotoxins (MT)	Mycosorb	Mycosorb vs MT
Number of saleable birds	96,480	94,410	96,150	+1,740
Liveweight produced, tonnes	264.4	239.9	249.0	+11.1
Emissions/bird, kg CO <sub>2</sub> -eq/bird	5.29	5.36	5.24	-0.12
Emissions/kg liveweight (LW), kg CO <sub>2</sub> -eq/kg LW	1.93	2.13	2.03	-0.10
Emissions/kg carcass, kg CO <sub>2</sub> -eq/kg carcass	2.77	3.05	2.01	-0.14

\*Simulation applied to a 100,000 bird broiler operation

The inclusion of Mycosorb during a mycotoxin challenge



25.41 tonnes CO<sub>2</sub>-eq\*



Annual usage of 17 cars in the UK\*



30 fewer transatlantic round – trip flights\*



\*Simulation applied to a 100,000 bird broiler operation

### People

Supports an increase in total protein output



### Planet

Contributes to reducing the carbon footprint of broiler production



### Profit

Helps to improve the profitability of broiler production

