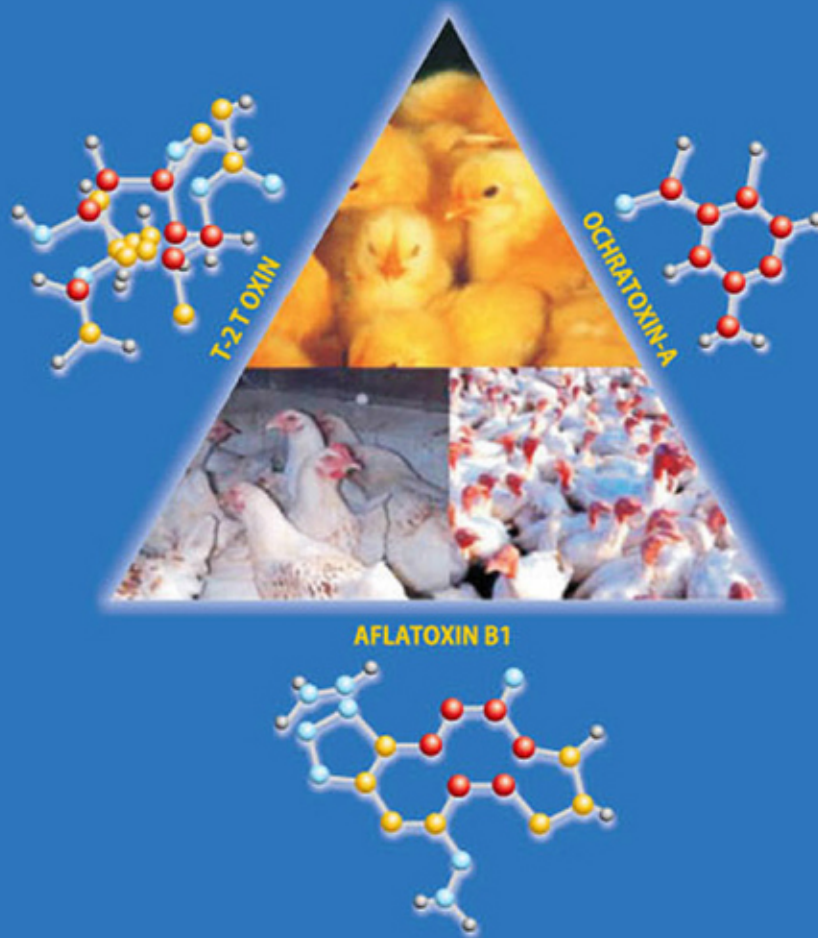


# MYCO-AD<sup>®</sup>

The most conclusive solution against  
the hidden problems caused by mycotoxins



*The first, unique mycotoxin adsorbent in the world with a commercial dose (2.5 kg/MT) identical to that used in scientific tests. Statistically-significant data show that MYCO-AD<sup>®</sup> has the ability to effectively protect birds against the deleterious effects caused by **aflatoxin** (7500 ppb), **ochratoxin** (2000 ppb) and **T-2 Toxin** (1000 and 1250 ppb).*

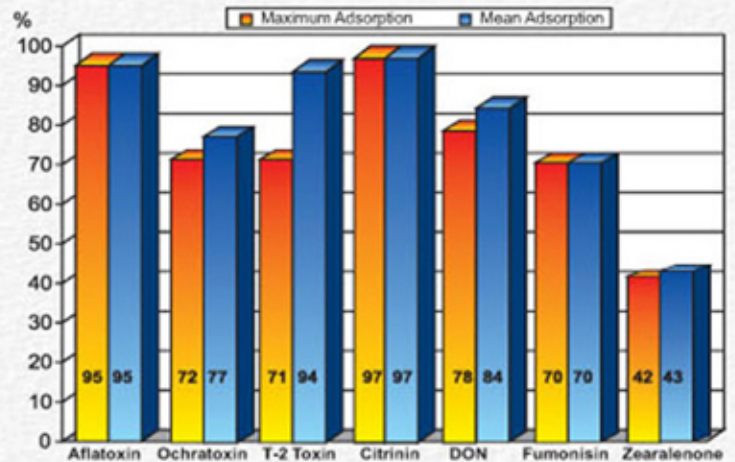
\* International Scientific Poultry Forum  
Atlanta, Georgia, USA  
January 2005



**SPECIAL NUTRIENTS**  
THE MYCOTOXINS SPECIALIST

## IN-VITRO EVALUATION

**In vitro** evaluation is the first step that must be taken for the identification of a mycotoxin binder. This is so important that many researchers consider that if the product does not work **in vitro**, it will hardly work when used in animals (**in vivo**). Generally, it is considered that a product with 80% absorption capacity **in vitro** can potentially do a good job **in vivo**. It is important that **in vitro** results represent the net adsorption of the product, meaning that both the adsorption and desorption process has occurred, through a pH change, mimicking what occurs in the gastrointestinal tract of animals. Adsorption results from tests performed only at a low pH do not assure that the product can retain the mycotoxin when the pH rises.



**Graph 1.** Mean and maximum net adsorption capacity of **MYCO-AD** in the high performance liquid chromatography (HPLC) test using 5 ppm (5000 ppb) of all 7 mycotoxins tested, with a **MYCO-AD** level of 2.5 kg/metric ton (commercially-recommended dose).

## IN-VIVO SCIENTIFIC TEST

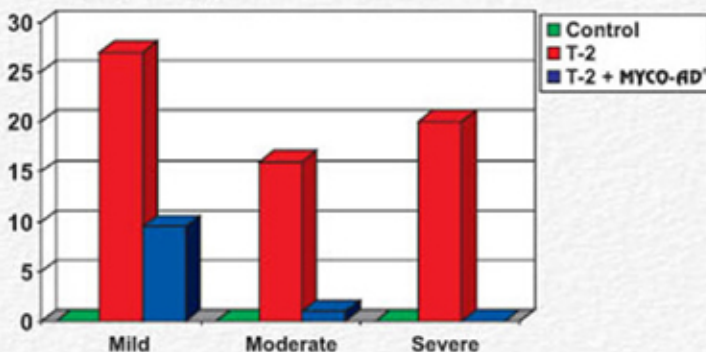
### EVALUATION OF **MYCO-AD** EFFICACY IN DECREASING THE TOXICITY OF T-2 TOXIN IN COMMERCIAL BROILERS

**Table 1.** Effects of **MYCO-AD** on body weight (BW), oral lesions, and bursal development of broiler chickens fed T-2 toxin at different ages.

TREATMENT	21 DAYS			28 DAYS			35 DAYS	
	BW g	Oral Lesion	Bursal Weight/100g BW	BW g	Oral Lesion	Bursal Weight/100g BW	BW g	Oral Lesion
Control	538 a	0 a	0.30 a	932 a	0 a	0.45 a	1446 a	0 a
Control + T2 (1 ppm)	463 b	1.84 b	0.20 b	788 b	1.63 b	0.20 b	1148 a	0.96 b
Control + T2 + <b>MYCO-AD</b>	543 a	0.36 a	0.26 a	938 a	0.21 a	0.40 a	1451 a	0.04 a

a, b Values within one column with different letters are significantly different ( $P < 0.05$ ).

**Graph 2.** Incidence and severity of oral lesions in broilers fed the control diet, the T-2 toxin contaminated diet, and the T-2 toxin contaminated diet treated with **MYCO-AD** during the entire test.



**Table 2.** Effects of **MYCO-AD** on body weight, feed intake, feed conversion rate (FCR), and organs development of broilers fed T-2 toxin at 40 days of age.

TREATMENT	Body Weight g	Feed Intake g	FCR	Spleen Weight/100g BW	Liver Weight/100g BW	Heart Weight/100g BW
Control	1791 a	3690 a	2.06 a	0.12 a	2.5 a	0.6 a
Control + T-2 (1 ppm)	1381 b	2928 b	2.12 b	0.09 b	2.5 a	0.6 a
Control + T-2 + <b>MYCO-AD</b>	1840 a	3717 a	2.02 a	0.12 a	2.4 a	0.6 a

a, b Values within one column with different letters are significantly different ( $P < 0.05$ ).

**Table 3.** Effects of **MYCO-AD** on average daily gain (ADG), daily feed intake (DFI), feed conversion rate (FCR), oral lesions, and bone mineralization of 38 day-old broilers exposed to test diets for 33 days.

TREATMENT	ADG g	DFI g	FCR	Oral Lesion	Bone Ash %
Control	54.8 a	105.3 a	1.92 a	0.25 a	45.95 a
<b>MYCO-AD</b>	51.3 a	103.0 a	2.01 a	0.25 a	45.65 a
T-2 Toxin (1.25 ppm)	44.9 b	98.4 a	2.19 b	2.75 c	--
<b>MYCO-AD</b> + T-2 Toxin (1.25 ppm)	53.5 a	101.4 a	1.90 a	1.75 b	--

a, b Values within one column with different letters are significantly different ( $P < 0.05$ ).

**Reference:** Casarin, A., M. Forat, E. Soto, B. Fazekas, J. Tanyi, and D. Zaviezo. Evaluation of the efficacy of a commercial HSCAS to reduce toxicity of T-2 toxin in broiler chicks. *International Poultry Scientific Forum*. Atlanta, GA, USA, 2005.

## EVALUATION OF MYCO-AD® EFFICACY IN REDUCING THE TOXICITY CAUSED BY FEEDING SYNTHETIC OCHRATOXIN AND AFLATOXIN IN COMMERCIAL BROILERS

**Table 4.** Effect of MYCO-AD® on daily feed intake (DFI), average daily gain (ADG), feed conversion rate (FCR) and initial/final body weight of aflatoxin-fed, 24-day-old broilers.

TREATMENT	ADG g	DFI g	FCR	BW 4 Days g	BW 24 Days g
Control	45.90 a	28.03 a	1.637 a	78.87 a	639.47 a
MYCO-AD®	47.82 a	27.83 a	1.717 a	78.35 a	634.95 a
Aflatoxin (7.5 ppm)	35.42 b	18.49 b	1.915 b	76.71 a	446.51 b
MYCO-AD® + Aflatoxin (7.5 ppm)	43.01 c	26.48 a	1.623 a	78.90 a	608.50 a

a, b, c Values within one column with different letters are significantly different (P < 0.05).

TREATMENT	Liver Weight/ 100g BW	Liver Gross Lesions	Mortality (%)
Control	3.54 a	Negative	0
MYCO-AD®	3.18 a	Negative	0
Aflatoxin (7.5 ppm)	6.14 b	100% Severe	8.3
MYCO-AD® + Aflatoxin (7.5 ppm)	3.83 a	25% Negative 40% Mild 25% Moderate 10% Severe	0

**Table 5.** Effect of MYCO-AD® on liver size and lesions, and mortality rate of aflatoxin-fed, 24-day-old broilers.

a, b Values within one column with different letters are significantly different (P < 0.05).

TREATMENT	DFI g	ADG g	FCR	7 Days BW g	28 Days BW g
Control	53.87 a	31.05 a	1.734 a	82.45 a	734.50 a
MYCO-AD®	54.85 a	31.12 a	1.762 a	85.36 a	738.80 a
Ochratoxin (2.0 ppm)	52.91 a	29.67 b	1.783 a	82.63 a	705.70 a
MYCO-AD® + Ochratoxin (2.0 ppm)	53.89 a	32.63 a	1.651 b	85.19 a	770.04 a

a, b Values within one column with different letters are significantly different (P < 0.05).

**Table 6.** Effect of MYCO-AD® on daily feed intake (DFI), average daily gain (ADG), feed conversion rate (FCR), and initial and final body weight (BW) of ochratoxin-fed 28-day-old broilers.

TREATMENT	Liver Weight/ 100g BW	Liver Gross Lesions	Kidney Weight/ 100g BW	Kidney Gross Lesions
Control	4.90	Negative	1.09 a	Negative
MYCO-AD®	4.96	Negative	1.19 a	Negative
Ochratoxin (2.0 ppm)	4.89	19% Mild 63% Moderate 18% Severe	1.37 b	88% Severe 6% Mild 6% Moderate
MYCO-AD® + Ochratoxin (2.0 ppm)	4.81	44% Negative 19% Mild 31% Moderate 6% Severe	1.33 b	62% Negative 19% Mild 6% Moderate 13% Severe

**Table 7.** MYCO-AD® effect on liver and kidney size, as well as lesions in ochratoxin-fed, 28-day-old broilers.

a, b Values within one column with different letters are significantly different (P < 0.05).

**Reference:** Casarin, A., M. Forat, E. Soto, M. Contreras, and D. Zaviezo. Control of Aflatoxin and Ochratoxin using a low inclusion commercial HSCAS in young broiler chicks. International Poultry Scientific Forum. Atlanta, GA, USA, 2005.

# MYCO-AD®



## DESCRIPTION

**MYCO-AD®** is an activated, broad spectrum, hydrated, sodium/calcium aluminosilicate (HSCAS), specially formulated to adsorb and retain all major mycotoxins affecting poultry health and productivity.

## DOSE RATE

2.5 kg per metric ton of feed.

## APPLICATION

Add **MYCO-AD®** to the mixer, together with all other feed ingredients. Mix homogeneously.

## COMPATIBILITY

**MYCO-AD®** is compatible with all feed ingredients. **MYCO-AD®** does not affect or adsorb any of the feed components (amino acids, vitamins, minerals, antibiotics, coccidiostats).

## CHARACTERISTICS

Cream-colored, fine powder.

## PACKAGING

**25 kg bag.** Four-ply bags (three paper plies and one inner plastic ply).



**SPECIAL NUTRIENTS**  
THE MYCOTOXINS SPECIALIST

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