



At the recent Biomin World Nutrition Forum in Salzburg, Austria there was a very informative poster session.

Here we summarise some of the posters that were pertinent to the pig sector.

Mycotoxins and pig performance

P. Knass, M. Schweitzer, V. Starkl and A. Pacin, Biomin Holdings GmbH, Austria and COFRA, Misiones, Argentina.

	Control	Treated
Average daily gain (g)	523.9	547.0
FCR	2.535	2.646
Cumulative weight gain	90.39	95.65

Two groups of piglets were created – one receiving normal feed which contained mycotoxins (low levels of aflatoxin and zearalenone) and the other which contained the same feed plus 2.5kg Mycofix Plus per tonne.

Endotoxins in MMA sows

S. Schaumberger, C. H. Ratzinger, L. Krüger, S. Masching and G. Schatzmayr, Biomin Research Center, Austria.

The aim of this study was to evaluate the incidence of endotoxins on swine farms in Austria and the excretions of endotoxins after antibiotic treatment.

The results showed that endotoxins are present in the excretions of sows at any time and that antibiotic

treatment does not eliminate them but delay their excretion until later (after weaning). During treatment endotoxin levels were lower in milk and urine but higher in faeces. It was shown that the use of antibiotics lead to a greater concentrated excretion from the intestine.

Mycotoxins in Argentina

P. Knass, M. Schweitzer, V. Starkl and A. Pacin, Romer Labs Diagnostic GmbH, Austria.

Pigs are one of the most sensitive animals to mycotoxins and this study was undertaken to assess the mycotoxin contamination levels of swine feeds in North-Eastern Argentina.

A total of 52 samples of 10 different types of swine feeds were examined.

No ochratoxin A or deoxynivalenol was found but 81% of the samples were contaminated with

aflatoxin B1 and 69% were contaminated with zearalenone. All of the samples contained fumonisin B1 and 89% with B2 and 78% with B3.

Based on these results and the fact the fumonisins are able to intensify respiratory problems in pigs it was considered that it was necessary to establish control measures. to minimise fumonisin occurrence in Argentinean corn.

Mycotoxins in Europe – 2009

K. Griessler, D. Schatzmayr and I. Rodrigues, Biomin Holding GmbH, Austria.

In 2009 a total of 1,013 samples of raw materials and finished feed from different European regions were tested for the important mycotoxins. The results are summarised in the table to the right.

	Aflatoxin	Zearalenone	Deoxynivalenol	Fumonisin	Ochratoxin A
No. of samples	125	758	933	44	102
Positive (%)	10	17	56	45	41
Av. contam. (ppb)	3	94	725	2,930	4
Max. contam. (ppb)	6	973	6,000	11,050	21

Global mycotoxin survey – 2010

K. Pedrosa, I. Rodrigues and K. Naehrer, Biomin Holding GmbH, Austria.

Mycotoxin	Prevalence (% positive samples)			
	Europe	Asia	N. America	S. America
Aflatoxin B1	12	37	6	34
Zearalenone	54	43	52	67
Deoxynivalenol	16	45	48	13
Fumonisin	29	2	-	-
Ochratoxin A	29	31	9	10

Mycotoxins in DDGS

U. Hofstetter, Biomin Holding GmbH, Austria.

In recent years the inclusion of dried distillers grains with solubles (DDGS) in animal feeds has been an increasing trend.

However, the mycotoxins which may be present in maize are not eliminated by the fermentation process during bioethanol production which produces DDGS as a byproduct.

In this survey more than 250 samples of DDGS were analysed for the major mycotoxins.

Almost all the samples tested positive for at least one mycotoxin and some 90% of samples were contam-

inated by two or more of themycotoxins.

Zearalenone was present in 84% of samples, deoxynivalenol was present in 70%, whereas only 10% of samples yielded T-2 toxin and 89% yielded fumonisin and only 19% were positive for aflatoxin B1.

The presence of field mycotoxins (zearalenone, deoxynivalenol and fumonisin) produced by *Fusarium* Sp. which, despite Good Agricultural Practice, can not be totally avoided is very frequent and their contamination levels could be considered as medium to high.

Mycotoxins in Asia – 2009

I. Rodrigues and K. Griessler, Biomin Holding GmbH, Austria.

Mycotoxin	Prevalence (% positive samples)		
	North Asia (mainly China)	South Asia	Oceania
Deoxynivalenol	68	30	19
Zearalenone	59	44	17
Fumonisin	40	64	6
Ochratoxin A	16	33	11
Aflatoxins	11	55	7

Of all the samples only 18% yielded none of the mycotoxins tested for, 26% only had one, and 56% were contaminated with more than one mycotoxin.

Effects of mycotoxins on intestinal response

B. Grenier, J. Luciola, G. Pacheco, A. M. Cossalter, W. D. Moll, A. P. Loureiro-Bracarense, G. Schatzmayr and I. P. Oswald.

Mycotoxins are secondary metabolites produced by fungi and considered as an important risk factor for both human and animal health.

Deoxynivalenol (DON) and Fumonisin (FB) are the most frequently encountered mycotoxins produced by *Fusarium* species and they co-occur in the animal diet.

Therefore, an in vivo experiment

was performed to compare the effects of subclinical doses of DON and FB, alone or in combination, on the systemic and intestinal responses of piglets.

The low doses of mycotoxins used in the experiment did not affect the body weight gain of piglets. Minor effects were observed on haematology and biochemistry values.