Alltech®

2024 Asia Import Risk Analysis

Mycotoxin insights to empower your nutritional strategy

TABLE OF CONTENTS

Meeting the mycotoxin challenge

Welcome to the latest Alltech Asia Import Risk Analysis. In this report, you will find a detailed breakdown of mycotoxin risk across each of the key grain-growing regions globally. For instance, quality-wise, the barley and wheat crops from Europe suffered hugely this year due to excessive rains close to harvest. This is one of the key areas of concern from harvest 2023.

Driven largely by a rebound in Chinese feed production and by rain damage to the domestic wheat crop, imports of grain by Asian buyers continue to reach record levels. The changing dynamics of the global grain trade are also diverting trade flows away from traditional countries of origin. Exports of corn to Asia from Brazil, which had a bumper crop in 2023, have increased significantly, often at the expense of U.S. corn, which would typically dominate imports into the region.

Whether you are purchasing ingredients or formulating animal diets, this comprehensive report arms you with the information you need to pinpoint potential challenges and make effective management decisions about the purchase and feeding of grains over the coming months.

Read on for details on this year's mycotoxin situation across the various exporting regions, and feel free to reach out to your local Alltech team at any time for further insights and advice on elevating your feeding and production efficiency.

Yours sincerely,

Jonathan Forrest Wilson, President of Asia-Pacific, Alltech

Continued collaboration with SGS

Alltech is again working with SGS, a world leader in mycotoxin testing services, to expand the reach of this year's European Harvest Analysis by collecting and analysing corn samples for Central-Southeast Europe. Combining these resources with findings from our Alltech 37+® mycotoxin analysis allows us to continue to deliver a robust assessment of the mycotoxin landscape right across the continent.

Insights at a glance

Europe

- There was a true North-South split in weather conditions during the growing season. Wetter conditions prevailed in the North, while further South and East, drier weather was more common.
- The excessive rains in the North and West created severe challenges for crop growers there, and *Fusarium* toxins such as deoxynivalenol quickly proliferated in barley and wheat.
- The European corn crop did not suffer the same drought and aflatoxin challenges as it had in recent years.

United States

- In the Southwest, there was a higher-than-normal fumonisin challenge due to a prolonged dry period.
- Early-harvest corn saw a relatively low mycotoxin risk, but as harvest progressed, this picture began to change.
- As the harvest progressed eastward, the weather was wetter, and the levels of type B trichothecenes (the DON family of mycotoxins) increased and created a greater level of risk in corn grain.

Canada

- Dry conditions across the prairies led to a reduced overall crop output compared to the previous year.
- *Fusarium* toxins present the greatest challenge, with average DON levels of 1,882 ppb detected in wheat and barley samples, leading to a general higher risk for this ingredient in swine diets.

Brazil

- A favorable growing season led to an increase in overall corn yield in Brazil.
- As with Canada, when present, higher average levels of DON and zearalenone could create challenges when corn from Brazil is included in swine diets.
- Zearalenone was present in 91% of samples tested, while the prevalence of DON was much lower.
- Although fumonisin was widely detected, with almost 70% of samples containing this mycotoxin, the levels are lower than other mycotoxin groups.

Corn Europe

01/09/2023 to 15/11/2023
Sample date range

Highest-risk mycotoxins

- Zearalenone
- Deoxynivalenol
- T2-HT2 toxins
- Ochratoxins

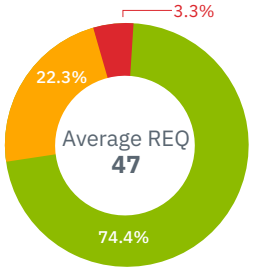
3.4
Average mycotoxins per sample

Occurrence (%) and average and maximum mycotoxin concentrations (ppb)

Mycotoxin Group	Occurrence (Above LOQ)	Average	Maximum
Aflatoxins, total	68.4	6	126
Ochratoxins	35.8	28	1,855
Deoxynivalenol	28.4	207	1,629
T2-HT2 toxins	21.7	51	553
Fumonisins	51.7	827	5,703
Zearalenone	15.8	81	575

How will this impact species and animal groups?

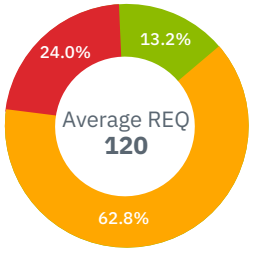
Dairy Cows



Change in milk production, litres/ cow/day

Change in somatic cell count, %

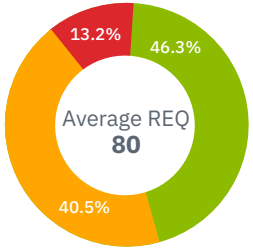
Grow/ finish pigs



Change in average daily gain, grams/day

Change in feed conversion rate, %

Broilers



Change in average daily gain, grams/day

Change in feed conversion rate, %

Percentage of samples at lower, moderate or higher risk for each species. **REQ:** A measurement of the cumulative impact of mycotoxins in reference to aflatoxin B_1.

Low Moderate High

Corn USA

05/09/2023 to 01/12/2023
Sample date range

Highest-risk mycotoxins
- Type B trichothecenes
- Fumonisins
- Fusaric acid

4.4
Average mycotoxins per sample

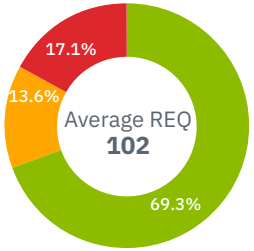
87%
Samples with 2 or more mycotoxins

Occurrence (%) and average and maximum mycotoxin concentrations (ppb)

Mycotoxin group	Occurrence	Average	Maximum
Emerging mycotoxins	80.2	237	6,485
Fumonisins	55.7	1,544	22,019
Fusaric acid	53.6	30.7	756
Type B trichothecenes	45.8	597.2	44,265
Zearalenone	8.9	11.7	1,032
Aflatoxins	3.6	0.8	101
Type A trichothecenes	3.1	21.1	181

How will this impact species and animal groups?

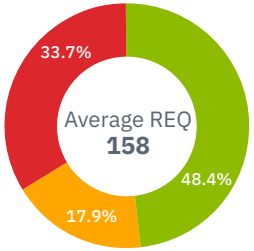
Dairy Cows



Change in milk production, litres/ cow/day

Change in somatic cell count, %

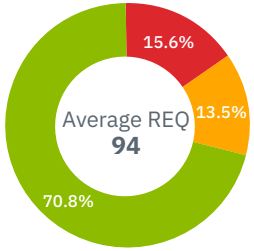
Grow/ finish pigs



Change in average daily gain, grams/day

Change in feed conversion rate, %

Broilers



Change in average daily gain, grams/day

Change in feed conversion rate, %

Percentage of samples at lower, moderate or higher risk for each species. **REQ:** A measurement of the cumulative impact of mycotoxins in reference to aflatoxin B_1.

Low Moderate High

Corn Brazil

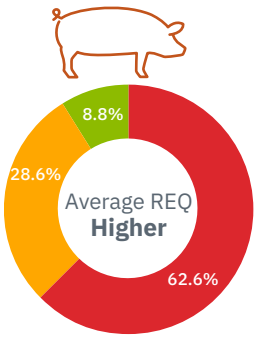
02/06/2023 to 03/01/2024
Sample date range

Occurrence (%) and average and maximum mycotoxin concentrations (ppb)

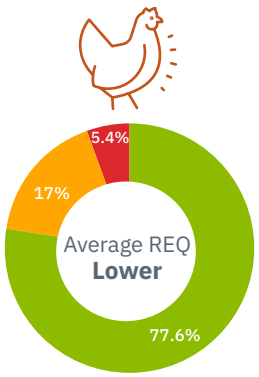
Mycotoxin group	Occurrence (Above LOQ*)	LOQ	Average	Maximum
Aflatoxin	17.3	3	21	152
Deoxynivalenol	7.9	300	1,879	6,800
Fumonisin	69.3	250	1,500	14,300
Zearalenone	91.0	50	254	1,270

Alltech REQ guide for selected species

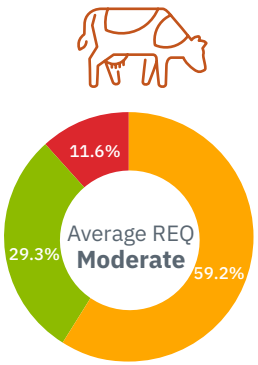
Grow/ finish pigs



Broilers



Dairy Cows



Percentage of samples at lower, moderate or higher risk for each species. **REQ:** A measurement of the cumulative impact of mycotoxins in reference to aflatoxin B_1.

Low Moderate High

Barley Europe

24/07/2023 to 15/11/2023
Sample data range

Highest-risk mycotoxins

- Type B trichothecenes
- Emerging mycotoxins
- Type A trichothecenes

6.0
Average mycotoxins per sample

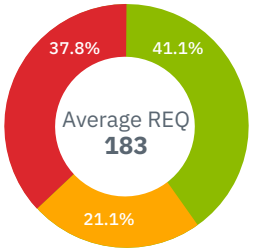
97%
Samples with 2 or more mycotoxins

Occurrence (%) and average and maximum mycotoxin concentrations (ppb)

Mycotoxin Group	Occurrence	Average	Maximum
Emerging mycotoxins	98.9	926.3	5,145
Type B trichothecenes	67.8	922.3	28,988
Type A trichothecenes	65.6	51.7	517
Fumonisins	22.2	6.3	127
Other *Penicillium* mycotoxins	21.1	12.1	322
Zearalenone	13.3	37.4	925
Fusaric acid	7.8	2.1	58
Ergot toxins	4.4	2.3	120
Other *Aspergillus* mycotoxins	1.1	0.2	14

How will this impact species and animal groups?

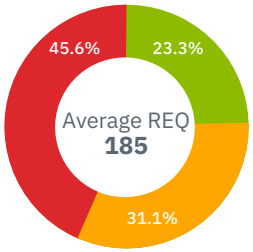
Dairy cows



Change in milk production, litres/ cow/day

Change in somatic cell count, %

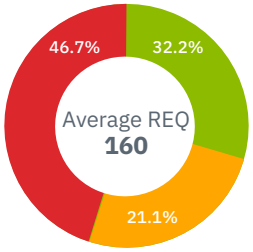
Grow/ finish pigs



Change in average daily gain, grams/day

Change in feed conversion rate, %

Broilers



Change in average daily gain, grams/day

Change in feed conversion rate, %

Percentage of samples at lower, moderate or higher risk for each species. **REQ:** A measurement of the cumulative impact of mycotoxins in reference to aflatoxin B_1.

Low Moderate High

Wheat Europe

03/08/2023 to 15/11/2023
Sample data range

Highest-risk mycotoxins

- Type B trichothecenes
- Other *Penicillium* mycotoxins
- Type A trichothecenes

3.5
Average mycotoxins per sample

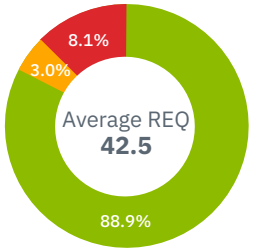
90%
Samples with 2 or more mycotoxins

Occurrence (%) and average and maximum mycotoxin concentrations (ppb)

Mycotoxin Group	Occurrence	Average	Maximum
Emerging mycotoxins	97	54.0	653
Type B trichothecenes	53.5	104.9	2,280
Type A trichothecenes	19.2	5.0	132
Fumonisins	16.2	18.6	414
Ergot toxins	7.1	28.7	1,753
Other *Penicillium* mycotoxins	6.1	15.2	517
Zearalenone	3.0	1.0	120
Fusaric acid	1.0	0.2	15

How will this impact species and animal groups?

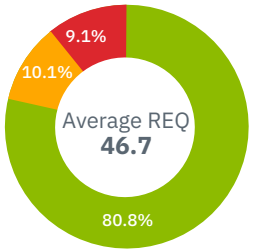
Dairy cows



Change in milk production, litres/ cow/day

Change in somatic cell count, %

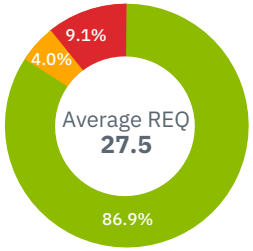
Grow/ finish pigs



Change in average daily gain, grams/day

Change in feed conversion rate, %

Broilers



Change in average daily gain, grams/day

Change in feed conversion rate, %

Percentage of samples at lower, moderate or higher risk for each species. **REQ:** A measurement of the cumulative impact of mycotoxins in reference to aflatoxin B_1.

Low Moderate High

Wheat and barley Canada

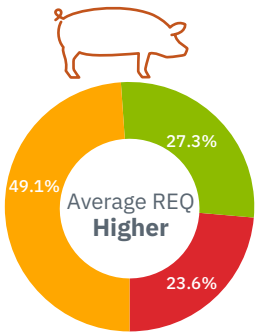
25/08/2023 to 30/11/2023
Sample date range

Occurrence (%) and average and maximum mycotoxin concentrations (ppb)

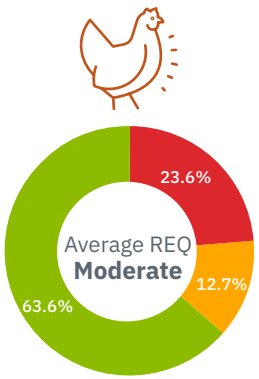
Mycotoxin group	Occurrence (Above LOQ*)	LOQ	Average	Maximum
Deoxynivalenol	29.1	300	1,882	6,622
T2/HT2 toxins	18.2	50	179	567
Zearalenone	14.6	50	553	2,954

Alltech REQ guide for selected species

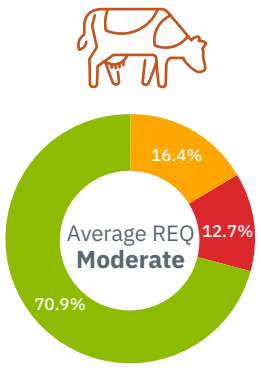
Grow/ finish pigs



Broilers



Dairy Cows



Percentage of samples at lower, moderate or higher risk for each species. **REQ:** A measurement of the cumulative impact of mycotoxins in reference to aflatoxin B_1.

Low Moderate High

Corn by-products – North America, Europe and Asia

06/06/2023 to 03/01/2024
Sample data range

Highest-risk mycotoxins

- Type B trichothecenes
- Zearalenone
- Ergot toxins

13.4
Average mycotoxins per sample

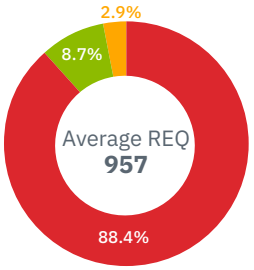
100%
Samples with 2 or more mycotoxins

Occurrence (%) and average and maximum mycotoxin concentrations (ppb)

Mycotoxin Group	Occurrence	Average	Maximum
Emerging mycotoxins	100	440.7	2,752
Type B trichothecenes	97.1	4,255.4	23,692
Fusaric acid	95.7	696.5	1,533
Fumonisins	94.2	2,803	10,391
Other *Penicillium* mycotoxins	82.6	17.6	184
Zearalenone	81.2	301.5	1,872
Type A trichothecenes	68.1	64.1	417
Ergot toxins	14.5	539.8	12,210

How will this impact species and animal groups?

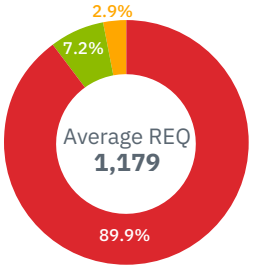
Dairy Cows



Change in milk production, litres/ cow/day

Change in somatic cell count, %

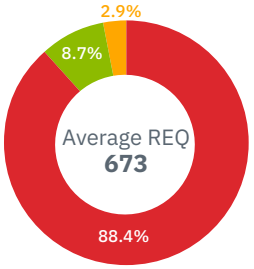
Grow/ finish pigs



Change in average daily gain, grams/day

Change in feed conversion rate, %

Broilers



Change in average daily gain, grams/day

Change in feed conversion rate, %

Percentage of samples at lower, moderate or higher risk for each species. **REQ:** A measurement of the cumulative impact of mycotoxins in reference to aflatoxin B_1.

Low Moderate High

A proven program from Alltech® Mycotoxin Management

Alltech believes that effective mycotoxin management is about seeing the whole challenge, from the farm to the feed mill and from risk assessment to feed management. To effectively manage the inevitability of feed mycotoxin contamination, it is crucial to understand the level of mycotoxin challenge so that the right steps can be taken to mitigate any adverse effects on animal performance, production efficiency and food safety.

Learn more about **Alltech® Mycotoxin Management,** our services and solutions and the latest information on the threat of mycotoxins at **knowmycotoxins.com.**

01	02	03	04	05
Risk **education**	Risk **identification**	Risk **quantification**	Risk **mitigation**	Risk **evaluation**
Harvest analysis programs	Alltech 37+®	Mycotoxin Management Portal	Mycosorb® family of mycotoxin adsorbents	Mycotoxin technical team
Podcasts and media	Alltech RAPIREAD®	Alltech PROTECT™ (REQ)		On-farm support
knowmycotoxins.com		Alltech DIET™ Estimator		Feed mill services

For more information, please contact our local office

Alltech.com