

MYCOTOXINS IN MODERN PIG PRODUCTION, A SILENT PROFIT KILLER?

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INTRODUCTION

Mycotoxins are chemical, toxic compounds produced by moulds present on feeds and their raw materials. Pigs are susceptible to quite a large range of mycotoxins such as deoxynivalenol (DON), zearalenone (ZEA), T-2, and fumonisins (FUM), less for ochratoxin (OTA) or aflatoxin. Clinical mycotoxicosis is less prevalent nowadays due to efficient screening and control, however subclinical effects are of utmost importance as they are negatively impacting pig health and performance.

OBJECTIVES

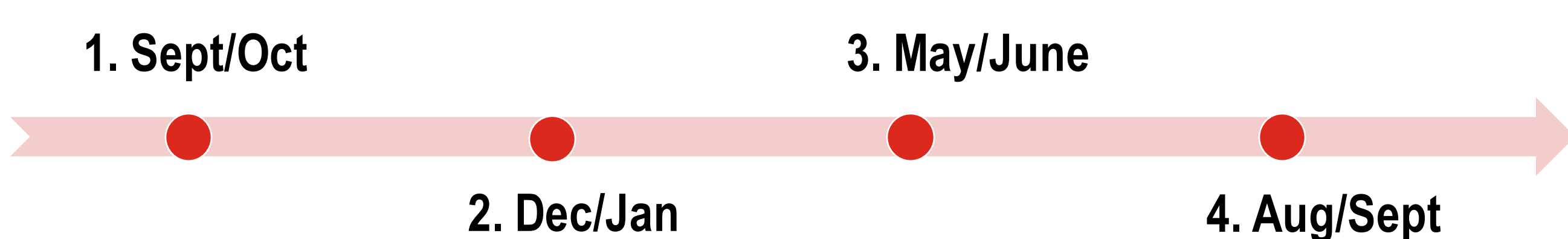
To assess the importance of subclinical mycotoxicosis in breeding herds in the Netherlands, a small-scale mycotoxin prevalence study was conducted.

METHODS

- Farms: 6 breeding herds (The Netherlands)

Suspicious farms	Control farms
- 3 herds - Management issue and/or necrotic tails (= indication for T-2)	- 3 herds - Proper management & no clinical mycotoxicosis

- Duration: 1 year (Sept 2022 - Sept 2023)
- Sampling times:



- Measurements: Mycotoxin analysis (Ochratoxin A, T-2/Ht-2, Fumonisin (FUM), Deoxynivalenol (DON), Zearalenone (ZEA)) by LC-MS/MS in Kemin customer laboratory services (CLS) lab of following feeds;

- Piglet starter feeds
- Sow lactation and gestation feed
- Suspicious raw materials

- Reporting through the Mycotoxin Today app, available for Kemin customers.

RESULTS

In total 98 samples were evaluated. 64% were positive for DON, 66% for T-2/HT-2, 58% for ZEA, 31% for OTA, and 30% for FUM. 52% of samples were contaminated with 2 or more mycotoxins. 11% of samples exceeded the risk level for DON for pig feeds. 11% of samples exceeded the risk level for ZEA for pig feeds. Prevalence of mycotoxins was seasonal (e.g., FUM in summer). In 2 farms necrotic tails were observed regularly. In both farms, peak contamination levels of up to 47 ppm of T-2 and HT-2 combined could be observed at specific time points.

Figure 1. Reporting dashboard Mycotoxins today app

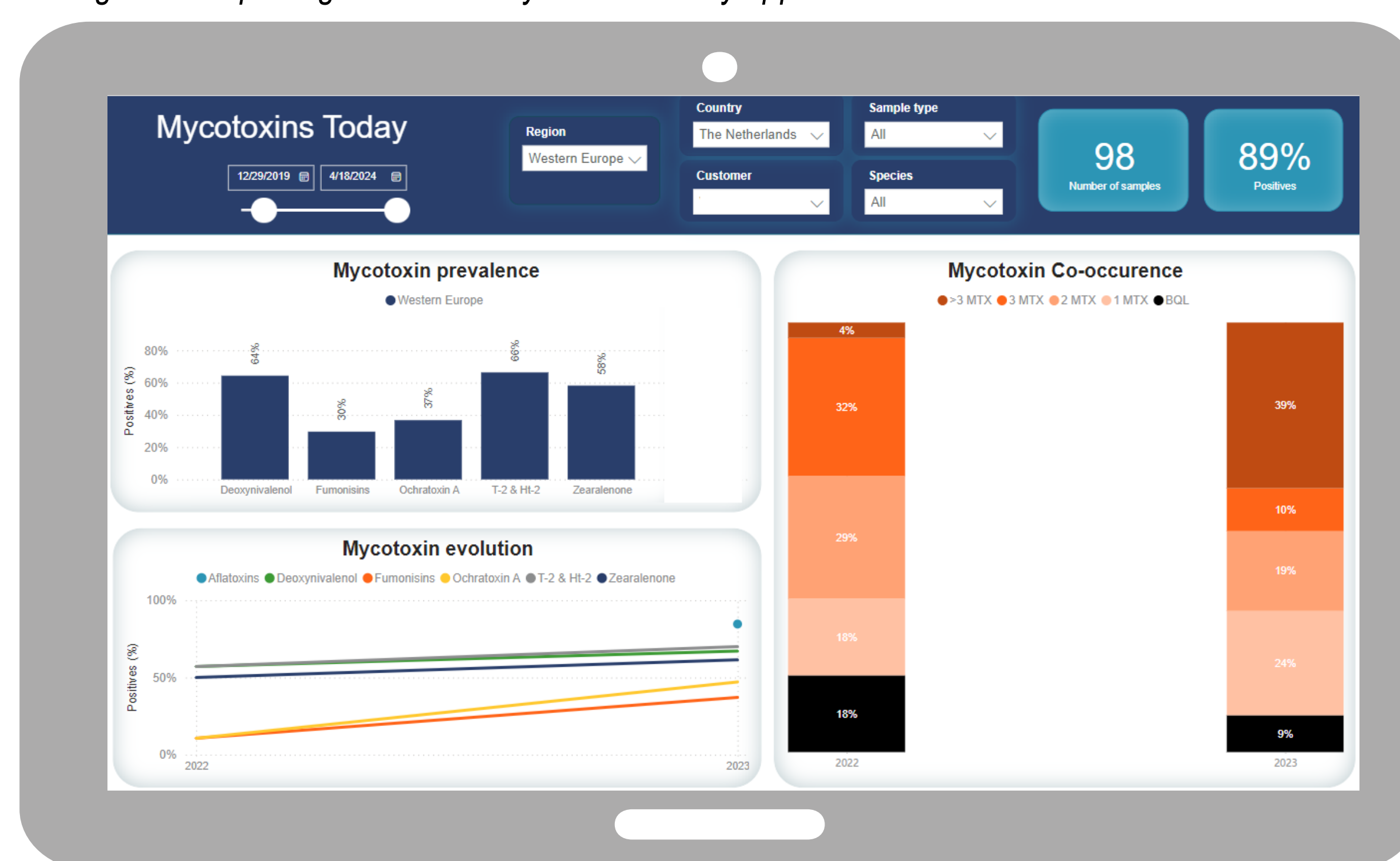
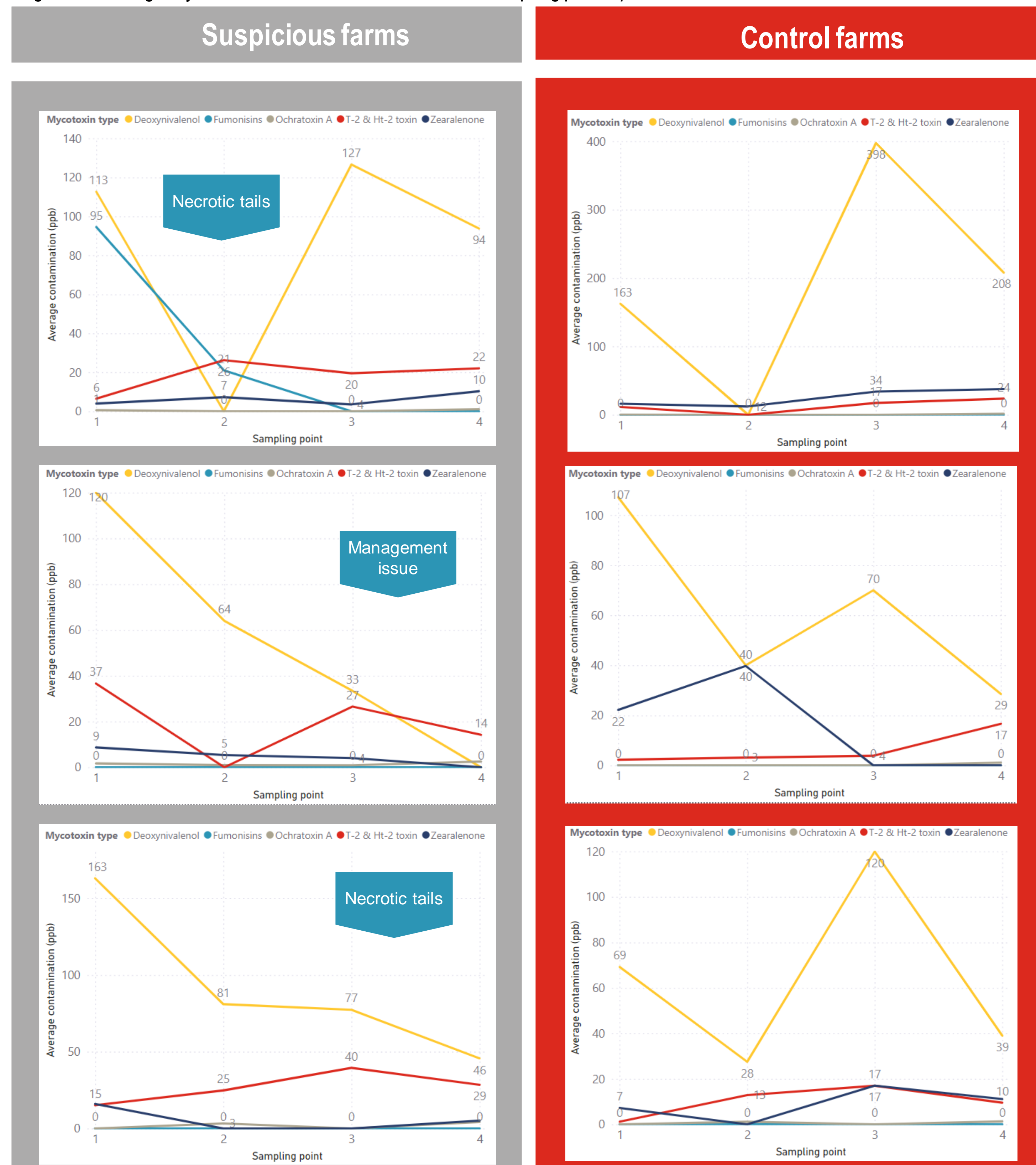


Figure 2. Average mycotoxin contaminations at different sampling points per farm



CONCLUSIONS AND DISCUSSION

In this study, there was no difference in DON and ZEA prevalence among farms considered as suspicious or control group, indicating that subclinical mycotoxicosis is present quite often. In case of clinical symptoms such as necrotic tails, T-2 contamination may be a cause. Today, there are no EU guidance levels for T-2 in pig feeds, only indicative levels for sum of T-2 and HT-2 toxin in cereals and cereal products. In this study, we could conclude that although no guidance levels are available, presence of T-2/HT-2 should not be neglected in pig feed.