



Mycotoxins

The accredited multi-mycotoxin assessments included in the annual wheat crop quality survey for the past eleven seasons, provide the most comprehensive overview of the multi-mycotoxin risk in commercial wheat produced and delivered to commercial grain storage companies in South Africa. Approximately 10 - 20% of the wheat crop samples were selected every season to proportionally represent all the production regions.

Constant monitoring of mycotoxin occurrence is crucial as it is well documented that mycotoxin risk can vary significantly between production seasons and also different production regions. Application of good agricultural practices and storage conditions as well as effective mycotoxin risk management programs are essential elements in preventing the negative effects of mycotoxins. Continued research on the prevention and mitigation of mycotoxin contamination is also necessary.

The only proven way to determine whether grain, cereals, feed or food are contaminated, is to obtain reliable testing data through analytical testing.

The absence of Aflatoxin B₁, B₂, G₁, G₂, Fumonisin B₁, B₂, B₃, Ochratoxin A, T2-toxin and HT-2 toxin in the wheat samples over the past twelve seasons were confirmed in the 2022/23 season. This is the third season that Zearalenone residues were detected on a wheat crop sample, residues were also detected on a sample during the 2019/20 and 2021/2022 seasons.

The Deoxynivalenol prevalence this season is the joint highest of the twelve seasons for which accredited test results are available. 43% of the samples tested positive for Deoxynivalenol residues, compared to the 35% and 43% of the previous two seasons respectively. Four of the positive residue levels measured this season exceeded the national maximum allowable level (2 000 µg/kg) for cereals intended for further processing. The two highest levels, namely 6 124 µg/kg and 6 463 µg/kg, were measured on samples originating from the North West and Free State production regions.

Please refer to the mycotoxin results in Table 6 on pages 58 and 69.

National Mycotoxin Regulations

According to the Foodstuffs, Cosmetics and Disinfectants Act (Act 54 of 1972) and regulations published under Government Notice No. R. 1145, dated 8 October 2004, all foodstuffs, ready for human consumption, may not contain more than 10 µg/kg of aflatoxin, of which Aflatoxin B₁ may not exceed 5 µg/kg.

Amendments to Government Notice No. R. 1145, dated 8 October 2004, published in Government Notice No. 987 of 05 September 2016, specify that: Cereal grains (wheat, maize and barley) intended for further processing, may not contain more than 2 000 µg/kg of Deoxynivalenol.

Flour, meal, semolina and flakes derived from wheat, maize or barley, ready for human consumption, may not contain more than 1 000 µg/kg of Deoxynivalenol.

Further processing means any other treatment or processing method that has been proven to reduce levels of fungus produced toxins in foodstuffs intended for human consumption.