

TABLE 25: MYCOTOXIN RESULTS - SUMMARY OF SEASONS 2005/2006 TO 2016/2017

Season	Total Number of samples received	Number of samples tested for mycotoxins	Aflatoxin µg/kg		Fumonisin µg/kg		Deoxynivalenol µg/kg		Zearalenone µg/kg		Ochratoxin A µg/kg		T-2 Toxin µg/kg		
			ave.	max.	ave.	max.	ave.	max.	ave.	max.	ave.	max.	ave.	max.	ave.
2005/2006	900	90	0	0	970	0	13 000	2 740	0	6 200	0	390	0	2.9	Not tested
2006/2007	900	90	<1	9	640	0	4 500	530	0	3 100	0	0	0	6.5	Not tested
2007/2008	900	100	0	2	470	0	5 500	240	0	1 700	0	100	0	2	Not tested
2008/2009	810	90	0	0	490	0	3 300	430	0	2 900	0	160	0	1	Not tested
*2009/2010	800	90	0	0	251	0	4 035	206	0	1 845	0	0	0	0	0
**2010/2011	693	325	0	0	468	0	7 048	165	0	1835	0	270	0	0	0
**2011/2012	1 000	350	0	0	383	0	11 297	146	0	911	0	297	0	0	0
**2012/2013	1 000	350	0	0	530	0	11 243	186	0	1 175	0	426	0	2	232
**2013/2014	930	350	0	0	451	0	5 357	243	0	6 134	0	445	0	0	0
**2014/2015	1 000	350	2	48	357	0	3 382	397	0	9 736	0	337	0	0	0
**2015/2016	920	350	0	0	444	0	11 347	175	0	1 585	0	127	0	0	0
**2016/2017	1 000	350	0	0	471	0	6 059	513	0	7 698	0	399	0	0	0
Total	10 853	2 885													
	Min.		0			0				0			0		
	Max.			48			13 000			9 736		445		7	232

* Sum of Aflatoxin (G₁; B₁; G₂; B₂) and sum of Fumonisin (B₁; B₂)

** Sum of Aflatoxin (G₁; B₁; G₂; B₂) and sum of Fumonisin (B₁; B₂; B₃)

91

Mycotoxin methodology

Technique used for season 2005/2006 - 2006/2007

The mycotoxin analyses were carried out in accordance with the Vicam Immunoaffinity Column Chromatography method using the different Vicam Instruction Manuals for the different mycotoxins. Detection of the toxins was done on a Fluorometer. The following range and limit of detection apply for each toxin:

Mycotoxin	Assay range µg/kg	LOD for maize µg/kg
Aflatoxin	0 - 300	1
Fumonisin	0 - 10 000	250
Deoxynivalenol	500 - 50 000	500
Zearalenone	0 - 5 000	100
Ochratoxin A	0 - 50	2
T - 2 Toxin	150 - 2 000	150

Notes:

Limit of detection (LOD) means the lowest level that can be detected accurately by the technique.
 Limit of quantitation (LOQ) means the lowest level that can be quantified accurately by the technique.
 A result above zero but lower than the limit of detection/quantitation, is reported as <LOD/<LOQ.
 µg/kg = ppb (parts per billion)

■ RSA averages calculated from averages per province.

Technique used for season 2007/2008 - 2008/2009

The SAGL used the ROSA (Rapid One Step Assay) Quantitative test, which is a lateral flow immuno assay test, together with the ROSA-M Reader for measuring the mycotoxin content. The following range and limit of detection apply for each toxin:

Mycotoxin	Assay range µg/kg	LOD for maize µg/kg
Aflatoxin	0 - 100	2
Fumonisin	0 - 60 000	100
Deoxynivalenol	0 - 5 000	250
Zearalenone	0 - 1 000	25
Ochratoxin A	0 - 150	1

Technique used for season 2009/2010 - 2016/2017

During 2010 SAGL implemented a multi-mycotoxin screening method using UPLC-MS/MS. The following limit of detection applies for each toxin:

Mycotoxin	LOQ for maize µg/kg	LOD for maize µg/kg
Aflatoxin G ₁	5	2.5
Aflatoxin B ₁	5	2.5
Aflatoxin G ₂	5	2.5
Aflatoxin B ₂	5	2.5
Fumonisin B ₁	20	10
Fumonisin B ₂	20	10
Fumonisin B ₃	20	10
Deoxynivalenol	100	50
Zearalenone	20	10
Ochratoxin A	5	2.5
T - 2 Toxin	20	10