

TABLE 25: MYCOTOXIN RESULTS - SUMMARY OF SEASONS 2006/2007 TO 2017/2018

| 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. | min. | max. | ave. | min. | max. | ave. | min. | max. | ave. | min. | max. | ave. | min. | max. |
| 2006/2007 | 900 | 90 | <1 | 9 | 640 | 0 | 4 500 | 530 | 0 | 3 100 | 0 | 0 | 0 | <2.0 | 0 | 6.5 | | | |
| 2007/2008 | 900 | 100 | 0 | 2 | 470 | 0 | 5 500 | 240 | 0 | 1 700 | 0 | 0 | 100 | <1.0 | 0 | 2 | | | |
| 2008/2009 | 810 | 90 | 0 | 0 | 490 | 0 | 3 300 | 430 | 0 | 2 900 | 0 | <25 | 160 | <1.0 | 0 | 1 | | | |
| **2009/2010 | 800 | 90 | 0 | 0 | 251 | 0 | 4 035 | 206 | 0 | 1 845 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| **2010/2011 | 693 | 325 | 0 | 0 | 468 | 0 | 7 048 | 165 | 0 | 1835 | 33 | 0 | 270 | 0 | 0 | 0 | | | |
| **2011/2012 | 1 000 | 350 | 0 | 0 | 383 | 0 | 11 297 | 146 | 0 | 911 | 33 | 0 | 297 | 0 | 0 | 0 | | | |
| **2012/2013 | 1 000 | 350 | 0 | 0 | 530 | 0 | 11 243 | 186 | 0 | 1 175 | 30 | 0 | 426 | 0 | 0 | 2 | | | 232 |
| **2013/2014 | 930 | 350 | 0 | 0 | 451 | 0 | 5 357 | 243 | 0 | 6 134 | 38 | 0 | 445 | 0 | 0 | 0 | | | |
| **2014/2015 | 1 000 | 350 | 2 | 0 | 357 | 0 | 3 382 | 397 | 0 | 9 736 | 36 | 0 | 337 | 0 | 0 | 0 | | | |
| **2015/2016 | 920 | 350 | 0 | 0 | 444 | 0 | 11 347 | 175 | 0 | 1 585 | 16 | 0 | 127 | 0 | 0 | 0 | | | |
| **2016/2017 | 1 000 | 350 | 0 | 0 | 471 | 0 | 6 059 | 513 | 0 | 7 698 | 36 | 0 | 399 | 0 | 0 | 0 | | | |
| **2017/2018 | 900 | 350 | 0 | 0 | 991 | 0 | 8 356 | 656 | 0 | 3 510 | 51 | 0 | 361 | 0 | 0 | 0 | | | |
| Total | 11 753 | 3 235 | | | | | | | | | | | | | | | | | |
| | Min. | | 0 | | | 0 | | | 0 | | | | | | 0 | | | | 0 |
| | Max. | | | 48 | | 11 347 | | | | 9 736 | | | | | 7 | | | | 232 |

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

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

 RSA averages calculated from averages per province.

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)

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 - 2017/2018

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 |