



# CUMBERLAND VALLEY ANALYTICAL SERVICES

*Laboratory Services for Production Agriculture and Research*

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CVAS has made significant changes in our analytical approach to mycotoxin analysis. While we have over the last number of years utilized high-pressure liquid chromatography (HPLC) as the primary approach to testing for mycotoxins, advances and opportunities to utilize liquid chromatography-tandem mass spectrometry (LC-MS/MS) have led us to adopt this newer technology.

LC-MS/MS is an approach that utilizes mass spectrometry detection. There are numerous advantages to this approach including the ability to obtain a multiple toxin analysis from a single sample extraction, the opportunity to obtain much lower detection limits, and the ability to verify the toxin compound with a high degree of accuracy. In this approach, a gaseous sample is ionized to generate cations which are separated according to their mass/charge ratio by a mass analyzer and then analyzed by a detector to determine the species and quantity of each ion.

The efficiencies of this approach help to offset the costs of the technology. We have slightly revised our packages to provide basic, intermediate, and comprehensive panels. We believe this will maintain simplicity of approach while meeting the majority of toxin identification and detection level needs.

The approach outlined in our service offering below provides a cost-effective approach for fast turn-around with excellent detection limits and the highest accuracy. There are a few differences in the packages and detection limits, but they are not significantly different from what was provided in our former package offerings. Ochratoxin has been replaced in our intermediate package with T-2 and HT-2 as these are more prevalent than Ochratoxin in typical ruminant feeds. The comprehensive package now includes 15-Acetyl Don and 3-Acetyl Don and generally lower detection levels.

These changes are effective immediately. Submittal forms, sample bag labels, and web based information will be updated over the next number of weeks.

Please contact us as you have any questions regarding these changes.

## **Mycotoxin Basic Diagnostic Panel**

Method: Liquid chromatography-tandem mass spectrometry (LC-MS/MS)

Charge: \$99.00

Turn-around: Typically, 3 business days

Aflatoxin (B1, B2, G1, G2) - Detection limits - 2.5 ppb

Deoxynivalenol - Detection limit - 0.25 ppm

Zearalenone - Detection limit - 0.25 ppm

## **Mycotoxin Plus Diagnostic Panel**

Method: Liquid chromatography-tandem mass spectrometry (LC-MS/MS)

Charge: \$145.00

Turn-around: Typically, 3 business days

Aflatoxin (B1, B2, G1, G2) - Detection limits - 2.5 ppb  
Deoxynivalenol - Detection limit - 0.25 ppm  
Zearalenone - Detection limit - 0.25 ppm  
Fumonisin (B1, B2, B3) - Detection limit - 0.10 ppm  
T-2 Toxin - Detection limit - 0.25 ppm  
HT-2 Toxin - Detection limit - 0.25 ppm

**Mycotoxin Premier Diagnostic Panel**

Method: Liquid chromatography-tandem mass spectrometry (LC-MS/MS)  
Charge: \$249.00  
Turn-around: Typically, 3 to 4 business days

Aflatoxin (B1, B2, G1, G2) - Detection limits - 1.0 ppb  
Deoxynivalenol - Detection limit - 0.1 ppm  
Zearalenone - Detection limit – 12.5 ppb  
Fumonisin (B1, B2, B3) - Detection limit - 0.10 ppm  
T-2 Toxin - Detection limit - 5 ppb  
HT-2 Toxin - Detection limit - 5 ppb  
Ochratoxin A - Detection limit – 1.0 ppb  
15 Acetyl Don- Detection limit - 0.10 ppm  
3 Acetyl Don - Detection limit - 0.10 ppm

**Individual Mycotoxin Diagnostic**

Method: Liquid chromatography-tandem mass spectrometry (LC-MS/MS)  
Charge: \$65.50

Aflatoxin (B1, B2, G1, G2)	1.0 ppb
Deoxynivalenol	0.1 ppm
Zearalenone	12.5 ppb
Fumonisin (B1, B2, B3)	0.10 ppm
Ochratoxin A	1.0 ppb
T-2	5.0 ppb
HT-2	5.0 ppb

**Next business day rush service on individual toxins**

Charge: \$60.00

**“Test best with LC/MS!”**