

Biomonitoring⁺ Program

SUPPORT - SOLUTIONS - RESULTS

MarSyt

An Agricultural Company
Since 1995

Your animals are exposed - even when feed tests say otherwise.

Subclinical mycotoxin exposure is silent but costly. You may not see symptoms yet, but performance, fertility, immunity, and profitability are already under threat. Chronic low-level exposure, often deemed "safe" - can still trigger clinical symptoms and serious health issues.

The Biomonitoring⁺ Program is available exclusively through MarSyt in partnership with Innovad.

The Biomonitoring⁺ Journey: From Blood to Better Health.

5 simple steps to detect, act, and improve –
with proven science behind every drop.



1. Blood Sampling (FTA Card) & Feed Sampling



2. Myco-Marker™ Lab Analysis



3. Risk Report & Action Plan



4. Proven, science-based intervention



5. Re-test and continue biomonitoring

The Breakthrough

The Biomonitoring⁺ Platform uses Myco-Marker™, an advanced LC-MS/MS method, to detect up to 36 mycotoxins including metabolites and emerging toxins like DON-sulfate and alternariol - from a single drop of blood.



Just **one drop**
on an FTA card.

- Detects systemic mycotoxin exposure
- Tracks cumulative, real-time toxin burden
- Predicts flock/herd health for precise mycotoxin management
- Science-based. Field-validated on 10,000+ blood samples worldwide.

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Contact MarSyt to learn how the **Biomonitoring⁺ Program** brings value to your dairy operation.



Read the Blood: Biomonitoring for Measuring Mycotoxin Exposure

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Mycotoxins remain a persistent challenge in animal production. Although feed testing and mitigation strategies continue to improve, feed analysis alone does not always show the level of exposure occurring inside the animal. Biomarker analysis helps close this gap by measuring mycotoxin exposure more directly and linking it to potential effects on health and performance. **The Biomonitoring⁺ Program** incorporates feed analysis and blood biomarker analysis (Myco-Marker[™]).

How Myco-Marker[™] Analysis Works

Innovad Group has validated and patented a method to detect 36 different mycotoxin biomarkers in blood, including emerging mycotoxins, for a more comprehensive view of total risk. The Myco-Marker[™] process is designed for practical on-farm use: one drop of blood is collected per animal using FTA cards, making sampling simple and allowing blood spots to be sent to the laboratory without special shipping restrictions.

What Blood Biomarkers Reveal

Combining feed analysis with blood biomarker analysis provides a more complete view of mycotoxin exposure. Since launch, more than 9,000 blood samples have been collected from farms around the world, creating a strong basis for assessing actual exposure under field conditions. Preliminary results show that feed analysis alone can underestimate mycotoxin risk. When biomarker analysis was added, one or more mycotoxins were detected in every evaluated farm, and 60% of farms showed co-exposure to five or more mycotoxins. In most cases, blood analysis identified risks not detected in feed, with 82% of farms showing a mycotoxin risk that feed analysis had missed.

Emerging mycotoxins produced by *Fusarium* species, including enniatins and beauvericin, and by *Alternaria* species, including alternariol, were among the most prevalent findings.

Linking Exposure to Health Symptoms

Chronic mycotoxin exposure, even at low levels, can contribute to clinical symptoms and reduced performance.

Biomarker analysis can therefore serve not only as an exposure measurement tool, but also as a diagnostic aid for assessing the role of mycotoxins in herd or flock health issues.

Across biomonitoring programs, higher exposure to deoxynivalenol and fumonisins has been linked with farms experiencing necrotic enteritis, while elevated levels of estrogenic mycotoxins such as zearalenone and alternariol have been found in animals with reproductive alterations. Because the origin of clinical symptoms can be difficult to identify, biomonitoring helps producers better understand the impact of mycotoxins on animal health.

Using Biomonitoring to Optimize Mitigation

By combining diagnostic biomarker data with detoxifier technology, producers can implement an integrated Mycotoxin Management Program. The program follows three practical steps:

- Collect feed samples from the animals' diet.
- Collect one blood sample per animal one hour after feeding using FTA cards.
- Complete a diagnostic questionnaire to identify clinical and subclinical issues on the farm.

Producers across species can use the biomonitoring program to identify mycotoxin-related stress and support more targeted mitigation with detoxifier technology.

Mycotoxin biomarker analysis provides a practical way to measure on-farm risk and evaluate mitigation effectiveness. The tool can help quantify detoxifier benefits, support animal health, and inform return-on-investment decisions.

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