FREMONTA

Food Safety Technology Insights

Optimizing your Environmental Monitoring Program with Technology & Insights

Summary

Environmental monitoring is an essential component of food safety preventive control and a requirement by the FDA. However, the current time- and labor-intensive environmental monitoring practices do not provide the intelligence needed to make efficient and effective food safety decisions.

The MicroTally® Smart Sampler brings innovative technology to advance environmental sampling and empowers QA/QC managers to meet today's compliance challenges. With the ability to automate large-scale sampling, analyze trends over time, and report on actions taken, this innovative technology benefits food manufacturers and producers in the form of time and cost savings, as well as added insights and data to meet regulatory demands.

Technological Innovation in Food Safety

Technology has reenergized the food industry, leading to major advances in the production of new and healthier foods on a large scale. Driven by technological leaps in food science, manufacturing equipment, and software, the food industry has continued to evolve in processing technology in order to accommodate changes in consumer preference, increased production volumes, greater demands on quality, and pressure to optimize operational efficiency. To meet these challenges, food manufacturers and producers have realized the benefits gained by adopting innovative technology.

Technological advances have not carried over to all aspects of food safety processes, particularly where compliance with FDA and USDA regulations is required. Environmental sampling methods have lagged and can greatly benefit from a technological intervention. The current environmental monitoring process for food companies involves manually swabbing surfaces, filling out paper forms, sending samples to a testing lab, transcribing sampling information, and then expecting a certificate of analysis within several days. The result is an overwhelming amount of scattered and unfocused data points as well as mountains of physical paperwork to track activities. What gets lost in the process is the ability to oversee and manage the quality of the environment in a way that is efficient and effective, with actionable insight into risk management.

As a result, QA/QC managers encounter a process that is typically very labor-intensive, cumbersome, expensive, and difficult to manage and track. On the other hand, QA/QC managers are increasingly being asked by senior management and regulatory bodies to provide trending information from numerous environmental monitoring data points. Data trending is both a conceptual and technical challenge for quality assurance personnel, simply because the current practice is ill-equipped for processing data and providing meaningful insights.

The Elephant in the Room: Increased Regulatory Demands

Meanwhile, the regulatory requirements are continuing to increase, accelerated by an increased focus on food safety on the part of the consumer and new regulations from the FDA and USDA. The Food Safety Modernization Act (FSMA) is transforming the nation's food safety system by shifting the focus from responding to foodborne illness to preventing it. FSMA requires organizations in the food industry to comply with its preventive control standards by conducting potential hazard analysis, evaluating contamination risks to products and manufacturer environments, implementing preventive control measures, ensuring compliance, and intervening when issues emerge. As such, regulations are becoming stricter, and the number of customer audits is increasing.

The current model of environmental monitoring is not equipped to handle these growing demands from regulatory bodies and auditors. Data from many current environmental monitoring programs (EMP) do not inherently give trends and insights to rectify problems in the environment, leading to repeat problem areas. As regulations become stricter, necessitating increased audits and reporting, any EMP must continue to adapt to meet these stringent requirements. Failure to do so can mean costly recalls, damage to a company's brand reputation, and negative social impacts to the health of its customers. Increasingly, food manufacturers and producers must skate to where the puck is going and be prepared for tougher regulations going forward.

Optimizing Technology in Environmental Monitoring

The demands on all EMPs are too large to not consider the benefits that technology can bring to optimizing the process. A robust program must integrate technology that can automate large-scale sampling, analyze trends over time, and report on actions taken.

1. **Automation of large-scale sampling** is crucial due to the sheer quantity of locations in a plant and the frequency with which environmental monitoring must be completed. Technology to manage and simplify this process must be able to be accessed through the cloud, which becomes organizational memory allowing for easy retrieval and ensuring that historical data is captured.

2. **Analyzing trends over time** is important because incidents in isolation do not give enough information to understand the overall EMP. This leads to the problem of missing the forest for the trees, where a narrow focus on detail creates a lack of understanding of the bigger picture. By focusing on the bird's eye view of the EMP, QA/QC managers can be better equipped to find repeated breaches and diagnose the root cause of the problem. Patterns emerge in sampling results that speak to the true nature of the environment by identifying repeat problem areas.

3. **Accurate reporting at your fingertips** is crucial to meet the growing demands of the regulatory landscape. Having a report with a historical log of information, including corrective actions taken for positive results, empowers QA/QC managers to quickly and succinctly pull up the right data for regulators and auditors.

Upgrade Your Environmental Monitoring System Today to Prepare for Tomorrow

Taking a technology-driven approach creates an efficient and effective EMP for today's regulations and tomorrow's demands. Investing in a technological and data-driven approach to elevate an EMP is not just a nice-to-have, it is a requirement to survive in today's food safety world. The consequences of not doing so are clear: lost revenue and customers from recalls. Food companies are realizing the importance of optimizing the tools available to them in order to maintain a safe production environment, comply with regulations, and grow their business.

Food manufacturers and producers trust the Smart Sampler to act as the intelligent and innovative "assistant" to QA/QC managers. The MicroTally® Smart Sampler system consists of a web-based environmental monitoring management software and handheld powered sampling device. The innovative **Smart Sampler Wizard** is a web-based application that provides a complete beginning-to-end sampling management tool. Users can create sampling plans, track lab results, generate reports, and view key insights at-a-glance. The Wizard integrates with the **Smart Sampler Wand**, a handheld automated sampling device with touchscreen controls, and the **Smart Sampler Vial**, a barcoded container that can be sent with the sampling sponge directly to a lab for testing. This next generation sampling system provides an integrated system to optimize and generate insights from your EMP.

*Learn more about how the MicroTally® Smart Sampler can benefit your business at **www.smart-sampler.com**.*