

# The 10 Step Path to Designing a Top Grade Environmental Monitoring Program

Foodborne illness outbreaks are in the news more and more – often from the result of poor hygiene practices. Post-lethality recontamination remains a serious concern. It's critical to monitor the hygienic environment with an Environmental Monitoring Program (EMP) used to measure the overall effectiveness of your sanitary design, personnel practices, and operational methods. EMPs verify that cleaning and sanitizing procedures are adequate and act as an early warning tool to assess the risks posed by pathogens of concern. Use our 10 step path to designing an EMP that excels.

## Step 1: Create an EMP Team

Bring together employees from various areas to form your team. The quality manager, plant microbiologist, line supervisors, plant engineer, and sanitation supervisors are all great candidates. This team will be responsible for identifying areas where the product may be at risk of contamination, marking the hygienic zones, and identifying sampling sites.

## Step 5: Perfect Labeling and Shipping Procedures

Some facilities test their swab samples in house and others use outside labs. To ensure accurate tests make sure key information, such as date, location, product size, and date submitted to lab, is included in your swab labeling and shipping procedures.

## Step 9: Verify, Verify, Verify!

Periodically verify your written environmental monitoring procedures with increased and intensive environmental sampling of the plant to assess whether the sampling sites are appropriate.

Environmental Monitoring Programs are specific to the individual food facility. Join us online in our on-demand webinar to learn more about zoning, swab samples and sampling frequency, choosing the right indicator bacteria, and documenting procedures, results, and corrective actions.

## Step 2: Apply the Zoning Concept

The best way to identify sampling points is to use the zoning concept. Based on the sanitary zoning concept, the operation is divided into four zones that cover every area from direct food-contact surfaces to areas remote from product processing areas.

## Step 6: Establish a Baseline/Target

Use historical results (e.g., previous year data) and regulatory guidelines to establish a baseline. For example, if a site tests <50 cfu for a year with two spike readings, then 50 cfu would be set as the baseline.

## Step 3: Use Indicator Bacteria/ Microorganisms

Indicator microorganisms are optimal for the EMP because they are high in number and easy to enumerate. A positive indicator means possible contamination and a risk of foodborne disease.

## Step 7: Test Your Products

Product testing is a verification activity. Finished product testing as sole means of controlling microbiological hazards is not a good strategy.

## Step 10: Keep Records

If you haven't written it, then you haven't done it!

## Step 4: Set Sampling Frequencies

Swab all potential sites within a defined period of time (e.g., one month) so that both food-contact surfaces and non-food contact surfaces are tested at each sampling time.

## Step 8: Implement Corrective Actions for Positive Results

If you receive a positive result, don't panic! Reassemble your team and initiate a root cause investigation. Use the team's findings to adjust and improve operations.

## Environmental Monitoring System: An Early Warning System

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