



CUSTOMER SUCCESS STUDY

How a Fortune 100 company solved a spoilage problem using TAAG solution

+35

spoilage species
detected

+100

new riskiest points
discovered

85%

fewer samples
per month

CHALLENGE

The QA manager had 2 problems with spoilage contamination during the year. Additionally, the spoilage microorganism was not identified and the source of the contaminations was not found.

The sampling program was focused only on indicators (aerobic plate count, coliforms and yeast/molds) and it was limited to finished product and surfaces of direct contact with the product. Moreover, the microbiological program was basically static, with a few changes according to the results, but not enough to avoid having contaminated products.

Another missing piece was deep data analysis to prevent delivering contaminated food. The QA team didn't have the tools, time and expertise to analyze all data to run a proactive and preventive microbial food safety program.

SOLUTION

Determining the right microbiological program using the TxA Program

Microbiological baseline study using TxA software

During a three month period, the TAAG Xpert Assistant software (TxA) - an artificial intelligent platform - learnt about the plant and it computed important data that was used for calculating risk assessment and predicting environmental sampling points.

As a consequence, during this stage, new critical points were predicted as critical to track down the source of contamination. Additionally, and using DNA sequencing, several and important spoilage microorganisms were found and identified in the plant.

New preventive and dynamic microbiological program

According to the previous microbiological baseline, and on experimental data, the following parameters were determined:

1. The best laboratory analysis for detecting the spoilage found in plant.
2. Specific environmental sampling points and their specific sampling frequency. According to the microbiological results, the sampling points and their frequency are automatically and dynamically adjusted.
3. Raw material, environmental and finished products specifications for compliance.

Implementing TAAG SP Spoilage kits for internal spoilage testing

For detecting all spoilage microorganisms found in plant, the internal plant laboratory implemented TAAG's SP Spoilage kits. These are real-time PCR kits for the detection and identification of over 50 spoilage microorganisms in one single PCR reaction in 26 hours (24 hours enrichment included).

Before implementing TAAG SP Spoilage kits, the plant conducted an internal validation to be sure that the kit detects and identifies the 35 spoilage microorganisms found during the microbiological baseline. The results demonstrated that all microorganisms were successfully detected in 26 hours.

COMPANY

A beverage company with presence in over 10 countries and over 50 plants worldwide.

INDUSTRY

Beverage

PRODUCTS

Soft drinks, juice and water.

MAIN MICROBIAL RISK

Spoilage microorganisms

PRODUCTS USED

TxA Program

The TxA program allows you to implement a scientific, evidence-based and highly customized preventive and dynamic microbiological program. All empowered by artificial intelligence platforms for easy management and data analysis.

TAAG SP Spoilage kits

Simultaneous detection of multiple spoilage microorganisms in one single qPCR reaction.

RESULTS

These studies allowed the QA manager to understand the contamination risks and how to properly eradicate them. The new laboratory analysis and targeted environmental sampling allowed to uncover hidden contaminations, which were never considered before.

Additionally, after the microbiological baseline and the implementation of the new microbiological program, the plant continued using TAAG SP Spoilage kits and the TxA software. After a few months, TxA was able to predict the microbial behavior in the plant environment and finished products.

Currently, and in case of out of specification results, TxA automatically proposes an evidence-based and dynamic corrective action that considers: historical microbial results, risk analysis, historical checklist results, effectiveness of previous corrective actions, etc.

The new microbiological program along with the TxA software, reduced the person-hour spent in taking the samples, minimized the excessive number of samples and granted more time for the Quality Assurance department while improved the food quality and safety in the plant.

With the new microbiological program, the Quality Assurance manager could avoid financial losses from spoiled products and possible recalls

FINDINGS

+35

Spoilage species detected

Over 35 spoilage microorganisms were identified in plant, such as *Zygosaccharomyces bailii*, *Pseudomonas putida*, *P. plecoglossicida*, *Bacillus megaterium*, *B. flexus*, *Enterobacter ludwigii*, *E. cloacae*, *Enterococcus faecium*, *Candida sojae*, *Klebsiella oxytoca* and *Serratia marcescens*. Because we detected, identified and studied these specific microorganisms, we provided tailor-made recommendations for corrective actions and proof of their effectiveness.

+100

New points discovered as riskiest to contamination

We have generated new, important and strategic points to the sampling program, transforming the old microbiological program into a smarter and dynamic microbiological monitoring. The new sampling points were discovered by the TxA software and their sampling frequency are automatically determined according to the microbiological results.

85%

Reduction of monthly environmental samples

We reduced the amount of samples per month in a considerable percentage. The sampling program is now easier, faster and more accurate to identify the potential contamination problems which can lead to recalls or product waste. The QA manager now has precise points to consider according to TxA's recommendations and insights that represent real value to food safety management.

TAAG Genetics



To see how the TxA and TAAG's kits can help you expand your laboratory capabilities and maximize the food safety of your food plant, or to schedule a demo, contact our Food Safety Specialists at:

www.taag-genetics.com | contact_US@taag-genetics.com