



CUSTOMER SUCCESS STORY

Del Monte Foods

Identification of Microbial Contamination Sources in a Cream Corn Line

About Del Monte Foods

Del Monte Foods, Inc. is one of the largest producers, distributors and marketers of premium quality, branded food products for the U.S. retail market. Del Monte® Foods offers a range of fresh and canned fruit & vegetable products. Their brands include Del Monte®, Contadina®, College Inn®, and S&W®. The company is headquartered in Walnut Creek, California with 8 factories and several co-manufacturing facilities across the country and the globe.

Challenge

Del Monte experienced sporadic spoilage issues on the Cream Corn line of its Toppenish, WA, plant for several years. The quality team conducted background work to determine what the spoilage organism was and where the possible sources were. They generated a few hypotheses on the potential origin of the issues. The hypothesis included potential sources of contamination including raw materials especially the syrup tanks. However, sampling and investigation of the syrup tanks yielded negative results, leaving them with the hypothesis that the spoilage was potentially from sanitation.

The real dilemma: How to find the source(s) of contamination in a cream corn line spanning over several pieces of equipment including two pipes, 2-inches wide and over 100-feet long, or a filler bowl with 40-50 filler heads?

Solution

When Novolyze presented the application of abiotic markers to understand microbial contamination in food processing facilities, Derrick found a real value for the Cream Corn line.



It's always very hard to try to just do swabbing and then backtrack where the contamination is coming from. With this abiotic marker, we are seeing where the product hang up is and where areas of difficult cleaning can occur, said Derrick.

Conducting the trials:

Del Monte received a sufficient amount of the abiotic marker dye to inoculate 1,250 kg of Cream Corn, and a customized 135ft snake inspection camera with onboarded UV-flashlight for the visual inspection of the line.

Del Monte prepared the inoculated Cream Corn product using the procedure provided by Novolyze and fed it in the system. Once the product was properly distributed into the process, the system was stopped, and a first visual inspection took place before sanitation. CIP and COP protocols for each area were applied according to standard cleaning strategy and a second visual inspection was performed.

Outcome

The use of an abiotic marker was instrumental to identify the areas of improvement when it comes to sanitation of the Cream Corn line, said Derrick.

Thanks to the use of Novolyze abiotic marker, Del Monte was able to identify hang up issues, especially underneath the filler head, areas that are difficult to visualize in day-to-day conditions. They were also able to rule out the hypothesis that the contamination could come from product residuals in the pipe, either from a connection with a gasket or poor welding. According to Derrick “Using the camera system provided by Novolyze was a clear advantage. We had to do minimal amount of taking apart of pipes, but it was not to the extent of breaking it down to 10-foot sections, so we were able to do the project in half a day”.

Based on the results from the project, Del Monte’s Quality Team now administers more scrutiny on the areas that have been identified by the abiotic marker and has modified their cleaning protocol. They are now using a manual process to clean those hard-to-clean areas that were identified during the project.



Derrick Bautista
Director of Quality Assurance

Derrick Bautista received his Master's of Science and Doctorate in Food Microbiology from the University of Guelph. He is currently Director of Quality Assurance at Del Monte Foods, Inc. He manages several international and domestic co-manufacturing facilities ensuring compliance standards for Federal, State and Del Monte Foods requirements. He also serves as a Food Microbiology Subject Matter expert for the company and provides consultation on spoilage investigation, sanitation, process validation, and food safety strategy.

Derrick is a member of several professional organizations, has published articles in peer-reviewed journals and is a collaborator of several patents.



“Working with the Novolyze team was a complete process with constant interaction, working to improve the process from beginning to the end. I really liked that it was a constant interaction back and forth and friendly dialogue.”