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— Steve Allard, Sr. Group Leader, Quality Services & Microbiology, Amway



MICROBIAL SOLUTIONS

Case Study: Amway

One Change, Huge Impact

All Celsis-tested products use a single broth. This significantly reduces the amount of media that Amway has to make on a daily basis with these results:

- Saves time making media
- Saves media and growth promotion costs
- Frees up media prep and storage space
- Uses less water
- Reduces media waste and disposal costs
- Frees up staff time for value-add activity

Amway works hard to keep its customers satisfied. In business for over 50 years and headquartered in Ada, Michigan, the company has more than 14,000 global employees in more than 80 countries and territories, with more than 3 million distributors worldwide. Quality and service keep demand high for the company's 450 products designed for nutrition, beauty, personal care, and home care. As a good business practice and to keep consumers safe, Amway conducts routine microbiological screening of its products. Like many companies, they were following traditional methods that date back more than 100 years.

Situation

Product samples were mixed with growth media and incubated for several days, then monitored regularly to see if colonies of bacteria, yeast, or mold had formed. “Microbiology testing tends to be lengthy,” says Steve Allard, senior group leader, Quality Services and Microbiology at Amway. “We needed to incubate samples for three to five days, so we were holding up products while waiting for test results.”

The lab's problems were magnified whenever one of the autoclave units went down for maintenance. Traditional methods generate a significant amount of material that must be disposed of or decontaminated.

At the same time, Amway's Sustainability Program Manager, Rick Van Dellen, is in the midst of leading a company-wide initiative. “Like many progressive companies, Amway wants to reduce risk and waste, including the waste coming out of the laboratory,” he explained. “We have a recycling goal of 95%, but it's hard to figure out how to recycle waste from a microbiology lab.”

Solution

Amway purchased a Celsis rapid detection system and has been relying on it increasingly since.

“If you move away from the recommended regulatory methods, there's a validation qualification process you go through,” explained Allard. “We did that very collaboratively with Celsis. They have a lot of great regulatory support on their side, and their technology is already well accepted in the industry; that was a selling point for us.”

EVERY STEP OF THE WAY



Sustainability Impact

Celsis Rapid Detection Reduces:

- Non-recyclable waste
- Janitorial costs for removal
- Use of autoclave, which also reduces water and energy use
- Maintenance costs

Celsis rapid detection using Celsis AMPIscreen™ is a system for faster, reliable testing of raw materials, work-in-process, and finished goods. It leverages an enzyme reaction to amplify ATP bioluminescence, making it the fastest rapid detection method for use in high-volume manufacturing environments.

The system includes the Celsis Advance®, a benchtop instrument for measuring luminescence, or light emissions. If microorganisms are present in combination with specialized Celsis AMPIscreen reagents, then an enzyme reaction is activated and produces light. The Advance.im™ software automates the assay, captures and records the testing data, and provides clear, objective results in a color-coded display.

The Celsis system detects the presence, and confirms the absence, of bacteria, yeasts, and molds within 24 hours.

As part of a system purchase, Celsis includes three days of on-site training including the start of validation. “The implementation was smooth,” said Steve Allard. “Celsis has a ‘tried and true’ validation process and they provided us with a lot of technical support and guidance, including technical reports they had done for others in the industry with similar products.”

Today, the Celsis method tests more than 60% of the company’s products, with more being validated regularly.

Results

“With the Celsis system, we were able to bring that three-to-five days of delay down to about a day,” said Allard. “We save at least two days of cycle time on each test. From a supply chain optimization standpoint, the reduced cycle time and inventory savings are important, and the Celsis system delivered.”

There were additional, unforeseen results from implementing the technology: increased lab efficiency and environmental benefits. At Amway, the task of media

preparation was extensive, and quality control procedures were lengthy. “After that,” said Allard, “there’s a significant amount of material you have to decontaminate with traditional methods. Celsis has improved our processes on all those fronts and reduced the amount of waste.”

“Having less lab waste to recycle is a big savings,” confirmed Rick Van Dellen. “It also reduces costs on our janitorial side. They don’t have to manage as much waste.”

Van Dellen’s seen the environmental benefits of the Celsis system in other areas of the lab as well. There’s the ongoing issue of the autoclave: “We were down an autoclave for a while, and having Celsis was a big help,” he said. “We use less electricity, less steam. Our water needs are reduced.”

To quantify its savings, Amway is working with Charles River on an environmental impact assessment that captures reductions in solid and liquid waste, as well as savings from reduced water and energy consumption. The impact report can also project additional savings from testing more of Amway’s products with the Celsis system.

Conclusion

Would Allard and Van Dellen recommend the Celsis system?

“You always have to consider the regulatory environment,” advises Allard. “That’s where we had a lot of confidence in Celsis. The technology has been out there and Celsis has done a great job improving the technology over the past few years.

“From a supply chain optimization standpoint, reducing cycle time and increasing efficiency in the lab are both very important for us,” Allard continues. “The Celsis system has certainly done that. We’ve seen the results.”

Van Dellen adds, “The environmental savings have been a great benefit, and one that exceeded our expectations.”

“An unforeseen benefit,” agrees Allard.


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