

Case study

Thermo Scientific Dry-Bags Enrichment Media transform sample handling in A.Bio.C's laboratory

Interview with Mme. Duplantier, Quality Manager, A.Bio.C

A.Bio.C

A.Bio.C, located in Arzacq in the south west of France, is part of the Qualtech Group that comprises six facilities including three laboratories that process food/feed, water and environmental samples. More than 40,000 samples per month are processed through the Qualtech Group laboratories.

In addition to pathogen analysis of food and water, the A.Bio.C site also specializes in the detection of genetically modified organisms (GMOs) and vegetal speciation for cereals. The laboratory is accredited for many programmes, including food pathogen testing.



Food Pathogen Testing

A.Bio.C processes more than 15,000 food samples per month. For pathogen testing, the laboratory's main customers are food manufacturers, food artisans, mass catering companies and retailers. The laboratory is able to process an extensive range of matrices.

Most of the food samples are analyzed for *Salmonella* and *Listeria* with NF VALIDATION certified cultural methods using chromogenic media. PCR methods are also used for a limited number of samples, for *Salmonella*, *Listeria* and *E.coli* O157:H7 parameters.

The large number of daily samples requires the use of high quantities of enrichment media: 250 litres of Half Fraser Broth and 600 litres of BPW per week.

Challenges Faced by A.Bio.C

Until 2014, the enrichment media were produced from Dehydrated Culture Media (DCM) using one 60 litre auto-preparator and three 27 litre auto-preparators. The media preparators produced high levels of moisture in the laboratory, and required regular and costly maintenance. These issues often led to failed batches, delays in sample testing and ultimately loss of time and money for the laboratory.

Successful Use of Thermo Scientific Dry-Bags Enrichment Media

In 2014, Thermo Fisher Scientific was invited to evaluate the situation and offer a solution to the challenges that the A.Bio.C laboratory was facing. The Thermo Fisher representatives suggested Thermo Scientific™ Dry-Bags™ Enrichment Media as an alternative to conventional sterilized media preparation which requires multiple time-consuming steps. Using Dry-Bags media, a technician can simply filter 20 litre volumes of water into a Dry-Bags media bag (a sealed bag of gamma-irradiated dehydrated culture medium) and within 20 minutes have prepared, ready-to-use, enrichment medium for their chosen applications. The prepared medium can then be dispensed straight into the food sample using an automated diluter.

Firstly, the A.Bio.C laboratory undertook trials to evaluate the benefits of using of Dry-Bags media in the sample preparation workflow. Next, Mme. Duplantier evaluated the proposed solution against the total cost and time involved in the preparation of equivalent volumes using conventional dehydrated culture media. She concluded that the Dry-Bags media solution would not only deliver workflow efficiencies to the laboratory, but would also result in financial savings.

The Dry-Bags media solution was rapidly adopted by the technicians at the A.Bio.C laboratory. They told us, “We cannot imagine going back to the previous way of working. Using the Dry-Bags media with their closed bags is safer and more efficient than our previous method. We can avoid any contact with the culture media, which can be an irritant”. To further enhance laboratory efficiencies, A.Bio.C has equipped the media preparation room with wheeled stainless steel trolleys which allow easy preparation of six Dry-Bags media bags on a single trolley. The Dry-Bags media bags are connected and filled with water



two at a time using the Thermo Scientific™ Dry-Bags Peristaltic Pump. Once filled, the Dry-Bags media bags are quarantined in the preparation room at least overnight and then, when needed, the trolley is wheeled to the laboratory where each Dry-Bags media bag can be connected to the diluters.

The Dry-Bags Enrichment Media trolleys have completely replaced the auto-preparators in the preparation room, thus alleviating the issues of moisture and its associated hazards.

This successful Dry-Bags Enrichment Media solution has since been adopted by two more Qualtech group laboratories.

For further information, visit thermofisher.com/enrich

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