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At RAYPA we believe our customers are the best people that can explain the advantages of acquiring our media preparator for their microbiology or plant tissue culture laboratory.

On this occasion, we interviewed Luis Fernando Portillo Pedraza, production manager of the microbiology laboratory located in Eurofins Scientific's delegation in Madrid. He is a professional with more than 16 years of experience in microbiological analysis and quality control of samples in multiple market segments, including: food, water, cosmetics and food supplements.

“Eurofins Scientific is a leading global laboratory group that offers a wide range of analytical and scientific-technical services to industries and authorities operating in pharmaceutical, agri-food, environmental, biotech and consumer goods sectors. Worldwide, Eurofins Scientific employs more than 61.000 people in 940 laboratories located across 59 countries and has more than 200.000 assay types in its catalog.

Regarding the laboratory under the supervision of Luis, it belongs to the food division, the Food & Feed Testing division, which in Spain has multiple sites with laboratories in Barcelona, Madrid, Pamplona, Murcia and Tenerife, among other locations.”



Luis Fernando Portillo Pedraza holds the position of Production Manager at a microbiology laboratory of Eurofins Group, and is a specialist in the field of microbiological analysis techniques for various industries including food, water, cosmetics, and vitamins. He is accountable for the technical aspects of the laboratory, personnel management and work organization. With respect to the technical field, he is responsible for inspecting and validating analytical methods, developing new techniques and ensuring the quality of existing methods by maintaining the corresponding accreditations and carrying out the pertinent audits, among other tasks.

We spoke with Luis in order to know first-hand his experience with our **RAYPA AE-MP Series media preparator**.

FIRST OF ALL, WE WOULD LIKE TO KNOW IF ALL EUROFINS SCIENTIFIC MICROBIOLOGY LABORATORIES WORK IN THE SAME WAY.

Just to clarify, Eurofins Scientific operates multiple laboratories that belong to the same division, such as Food & Feed Testing division. However, each laboratory has their own autonomy and their own specific methods and protocols. However, there are some common processes that are shared across all laboratories. For example, in the case of enumerations for anaerobic microorganisms, one laboratory may use a certain culture medium, while another laboratory may use a different one.

However, in other aspects of the assays, such as the diluent used in enumerations, it is common for any type of quantitative assay. Regardless of the method that is used to quantify, the use of this type of diluent is standard across all Eurofins laboratories, as well as in any other microbiology laboratory.

WHAT TYPE OF CULTURE MEDIA DO YOU USE IN YOUR FACILITY? WHICH ONES DO YOU PRODUCE BY YOURSELVES?

With regard to the operations conducted within the laboratory under my supervision, I would like to highlight the utilization of culture media that are procured from suppliers. These media have already undergone validation and are acquired ready-to-use directly from the manufacturers, either in the form of bags for specific diluents or as Agar dispensed in Petri dishes. Conversely, the preparation of peptone water is performed in-house utilizing a media preparator. This approach is adopted due to the large daily consumption of the product, and it allows for substantial cost reduction.

The assays that are conducted utilizing peptone water primarily involve general counts of bacteria and yeasts. Additionally, qualitative assays for *Salmonella Enteritidis* are performed by enriching the culture medium with peptone water.

WHY DID YOU CHOOSE TO PREPARE THE PEPTONE WATER BY YOURSELVES WITH A MEDIA PREPARATOR?

Our laboratory has chosen to utilize the media preparator for the production of peptone water, as it is a more cost-effective option in comparison to purchasing ready-made 3L bags of peptone water.

Before acquiring the equipment we conducted a thorough evaluation of the costs associated with acquiring, transporting, and storing bags of peptone water, as well as the productivity of our lab technicians when working with individual bags versus with the media preparator. As a result, it was determined that the preparation of this product using the media preparator was more economical and yielded a favorable return on investment in a short time frame after its acquisition.

In addition to the financial benefits, the media preparator also offers advantages in terms of time and labor efficiency. The operator is not required to continuously change bags and hoses, and a larger volume of media can be prepared per rotation at a faster rate and it can be dispensed quicker. Furthermore, the risk of contamination is minimized as multiple bags are not used on a daily basis. Additionally, the need for dedicating an area for storage and refrigeration of the product is eliminated as the prepared media is used directly from the media preparator.

By improving productivity and eliminating the need to store product in stock, we have overcome growth limiting factors and have been able to increase our daily assay capacity.



HOW DO YOU USE THE MEDIA PREPARATOR?

As previously stated, we make substantial use of a media preparator in our laboratory. This device is primarily employed for the in-house production of large quantities of peptone water. Recently, an additional media preparator has been acquired, bringing the total number of preparators in use to three. Each of these preparators has a maximum production capacity of 36 liters, and at present, we are able to produce up to four full preparations per day.

The task of media preparation is carried out by a single operator, who is responsible for ensuring the proper operation of the preparator. Prior to the initiation of each preparation cycle, a cleaning cycle is conducted, and the necessary amount of distilled water and dehydrated media is added.

WHAT ARE THE BENEFITS OBTAINED AFTER INCORPORATING THE MEDIA PREPARATOR INTO YOUR ACTIVITIES?

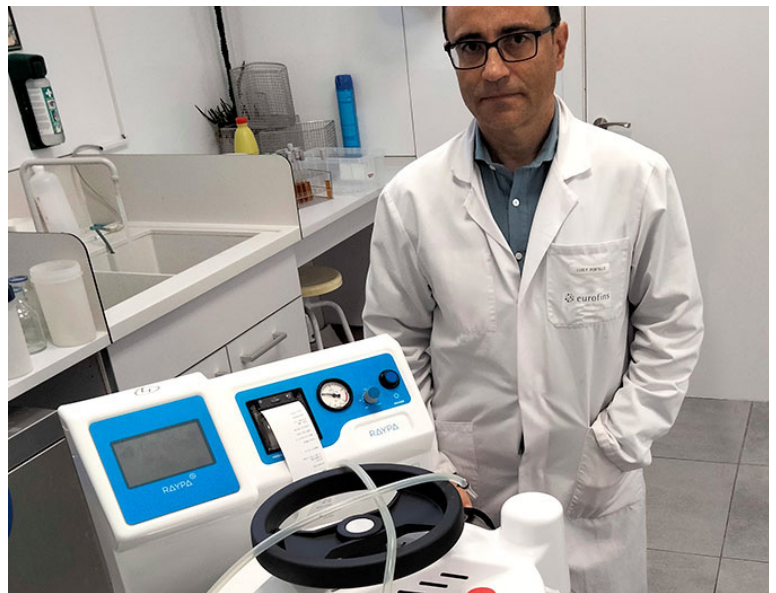
When working with high volumes, the utilization of ready-made bags of 3, 4, or 5 liters necessitated frequent bag changes and the reconfiguration of equipment. The implementation of the media preparator, however, allows for the direct processing of 36 liters of media per preparator. This is equivalent to the quantity that would be obtained through the use of 7 bags of 5 liters. Additionally, this method is faster and more efficient and it also reduces the risk of contamination.

WHAT IMPROVEMENTS HAVE BEEN ACHIEVED BY ADDING A THIRD MEDIA PREPARATOR?

The acquisition of an additional media preparator has greatly improved the efficiency of our laboratory operations. Previously, with only two preparators, there were periods of downtime while one unit was being cleaned and prepared for the next cycle. However, now that we have three units, we are able to rotate them and maintain a continuous workflow. One unit is in the process of preparing media, another unit is being cleaned, and the operator is dispensing product from the third unit. This allows for a more streamlined and efficient process, minimizing downtime and maximizing productivity.

HOW HAS YOUR EXPERIENCE WITH OUR COMPANY BEEN?

Prior to the acquisition of the media preparator, we were already familiar with RAYPA as a manufacturer, as we had previously utilized their autoclaves for instrument sterilization. In 2018, we procured the first media preparator, which at the time was still a prototype under development. We conducted a thorough evaluation and found the device to be highly satisfactory, particularly due to its simplicity of design and ease of operation. The device does not require extensive or specialized training for personnel, and it is equipped with only the necessary functions to perform its intended task effectively.



“RAYPA media preparators have just the right and necessary functions to fulfill our needs.”

Luis Fernando Portillo Pedraza,
Production manager of microbiology laboratory at Eurofins Scientific.

Regarding capacity, RAYPA media preparator allowed a greater volume compared to other equipments that, at that time, we were also evaluating. And that feature, taking into account the quantities of peptone water we produced, was an important aspect to consider. What this media preparator offers is what our laboratory needs, no more and no less.

WHAT IS YOUR OPINION ABOUT THE TECHNICAL SERVICE? BOTH IN TERMS OF EQUIPMENT INSTALLATION AND AFTER-SALES SERVICE.

I really have no complaints because any query I have made to the technical service, either by e-mail or telephone, has been quickly resolved. Quite honestly, the service has been perfect.

The installation of the equipment requires a water supply system and a drainage one, which are very easy to assemble. As I have already mentioned, its operation is very simple, and the technicians found it quick and easy to learn.

IN YOUR OPINION, AT WHAT POINT IS IT WORTH INVESTING IN A MEDIA PREPARATOR VS. PREPARING WITH AN AUTOCLAVE?

I have previously shared our positive experience with the use of the media preparator with my colleagues from other microbiology laboratories throughout Spain. I have highlighted the ease of use and high volume production capabilities of the device, which eliminates the need for purchasing peptone water. Furthermore, the risk of contamination is minimized through the

avoidance of frequent hose changes, and it does not require refrigerated storage space like ready-made bags of smaller volume. The compact size of the media preparator also allows it to be placed in multiple locations.

If a laboratory decides not to purchase bags of peptone water and instead chooses to prepare it in bottles using an autoclave, these bottles must have a capacity of 2 or 3 liters in order to handle them. This implies that technicians have to carry heavy loads, a larger capacity autoclave is required, these bottles have to be inspected, long preparation times are necessary, there are risks associated with handling hot elements, etc.

If we compare the performance of a media preparator vs. bottles prepared with an autoclave in a laboratory, the truth is it is worth having a media preparator. By using a media preparator you do not have to perform several autoclave cycles, you do not have to handle bottles that you will have to keep refrigerated until you are going to use them and you do not have to perform visual and quality inspections each autoclave batch. In addition, the dispensing function is not integrated and productivity per cycle is much lower. As we can see there are several advantages, such as no storage, not so many controls, not so much handling and you can elaborate a high volume of peptone water.

Moreover, it offers very good value for money, even when compared to other manufacturers whose costs are higher.

IS THERE ANYTHING YOU WOULD IMPROVE ABOUT OUR MEDIA PREPARATOR?

Sometimes I have missed the integration of an external temperature probe. In other words, the media preparator has a flexible probe that performs a control through the equipment itself and, since it has a built-in printer, it tells you whether the sterilization or the cycle we have performed is correct or not. But, we could not place an external validation probe to continuously monitor and register the temperature of the culture media during the sterilization process. I am pleased to learn that RAYPA has now made this option available through the integration of an external adapter, enabling us to conduct temperature control in a more precise manner. I am appreciative that RAYPA continuously seeks ways to enhance their products, and this addition further improves the functionality of the media preparator.

We are deeply grateful to you...

Thank you very much Luis for sharing your experience with us!



About our media preparators

The AE-MP Series media preparators optimize the operational workflow of microbiology laboratories and plant tissue culture laboratories. A single device integrates preparation and sterilization processes as well as rapid cooling and dispensing of high-quality culture media with excellent batch-to-batch reproducibility. Media preparators are designed to reduce total operating time and provide large volumes of sterile culture media thanks to their efficient heating system and rapid cooling phase at the end of the sterilization process.

For more information:

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