

# TRUFFINI&REGGÈ' PROBIOTICS SYSTEM



## Our Expertise

Truffini&Reggè has many years of experience in the production of probiotic products. Over the years, the company has invested in the construction of humidity-controlled departments and the acquisition of facilities to produce sachets with Multi-PW-Pack™ technology and stick packs with Dry-SP-System™ and Open-SP-System™ technologies. Our expertise is supported by a team of highly qualified employees and by strong relationships with strain suppliers.

All probiotics that we use in the manufacture of our products, formulated with a clean label perspective, have scientific rationales supported by clinical studies.

## Our Advanced Technologies

### Dry-SP-System™ & Open-SP-System™



Dry-SP-System™



Open-SP-System™

Dry-SP-System™ e Open-SP-System™ technologies achieve a highly effective protective barrier to the external environment, an essential condition to control and maintain water activity at very low levels. Moreover, the use of stick-packs with coplanar sealing and 20 my aluminum guarantees an effective moisture control.

Our high standards in terms of temperature and humidity in synergy with our technologies are effective in preserving the viability of probiotic strains throughout the shelf-life of the product.

### Multi-PW-Pack™



Multi-PW-Pack™



Multi-PW-Pack™

The innovative Multi-PW-Pack™ technology allows the production of bipartite and tripartite sachets. In this way it is possible to obtain a clear physical separation of the probiotics chamber from the other chambers with mixtures of active components that could negatively interfere with the viability of the strains.

## Water Activity

A parameter to be closely monitored when developing a probiotic product is the activity of free water. Free water is the part of water that is not bound to the other ingredients of the food supplement.

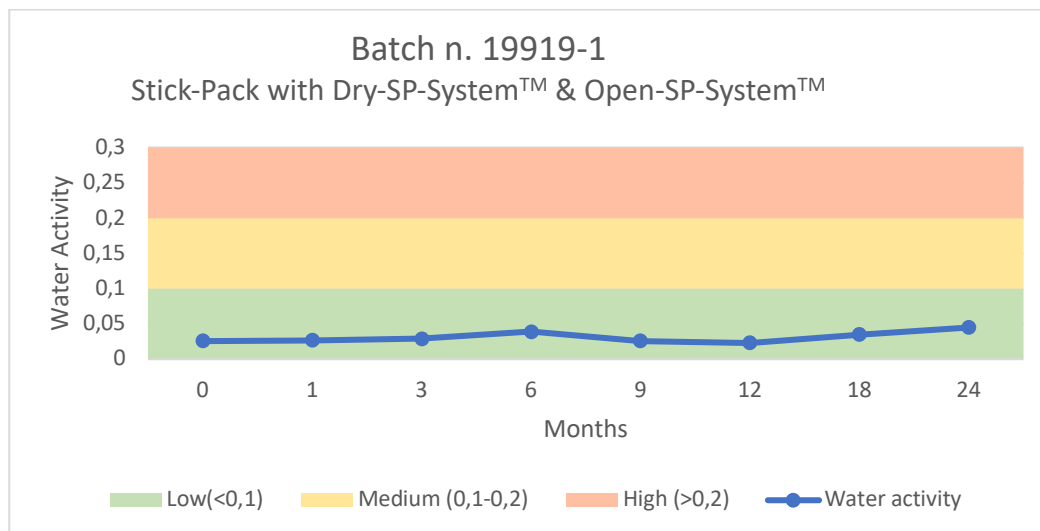
High values of free water promote microbial growth and chemical and enzymatic reactions that can affect various parameters, such as shelf life, flavor, texture and appearance of the product.

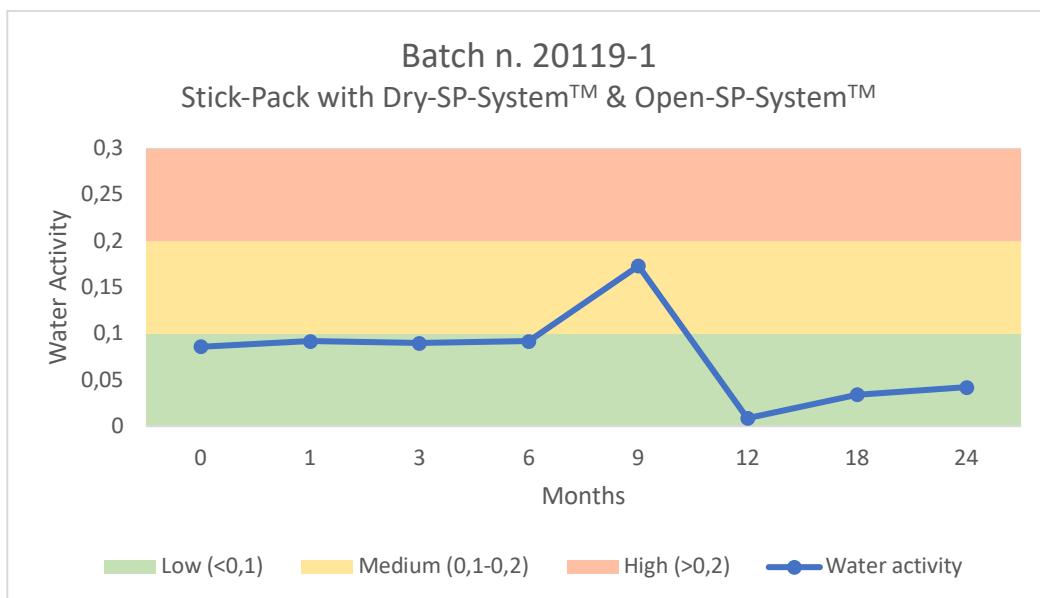
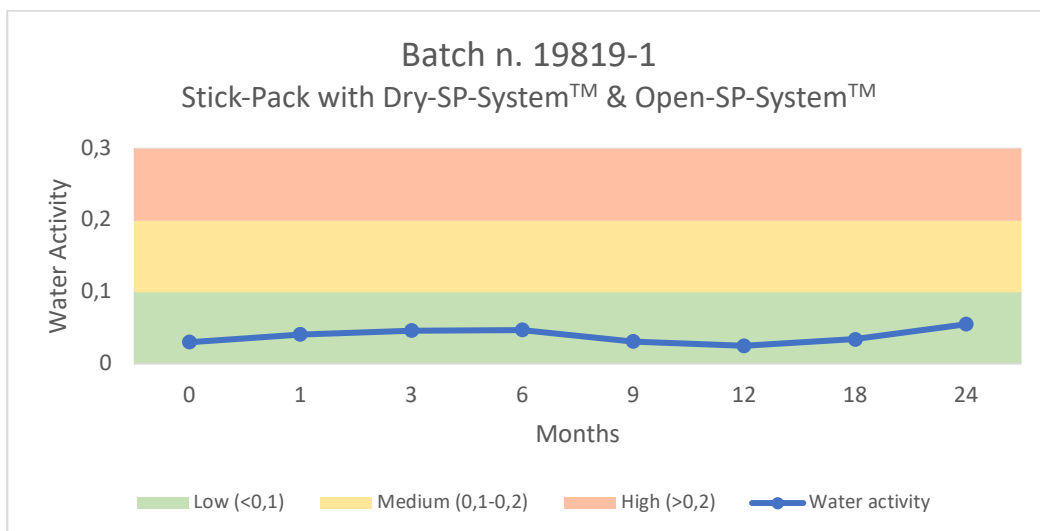
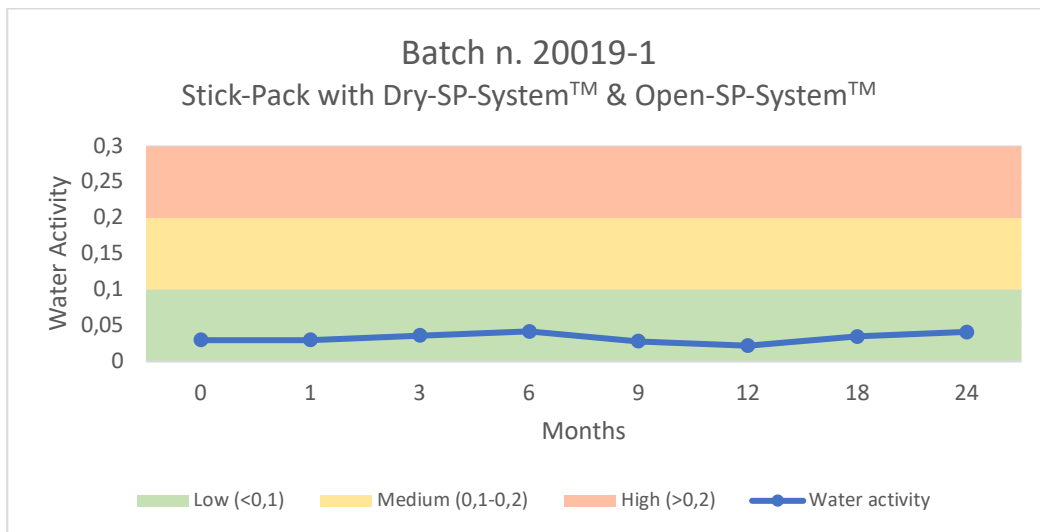
Numerous scientific studies have shown that probiotics lose their vitality in contact with free water while they can survive very well at room temperature if free water levels are kept very low.

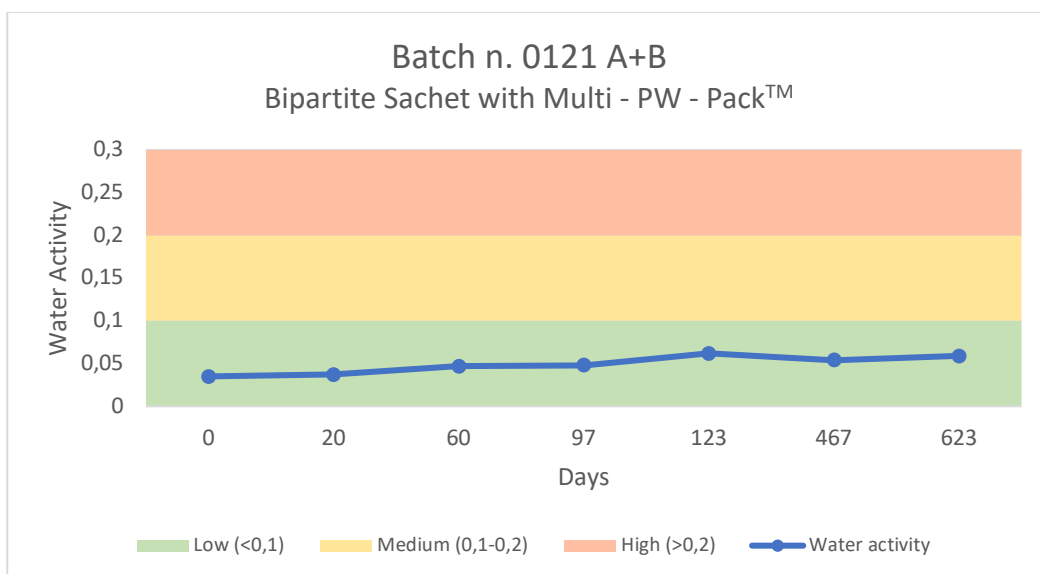
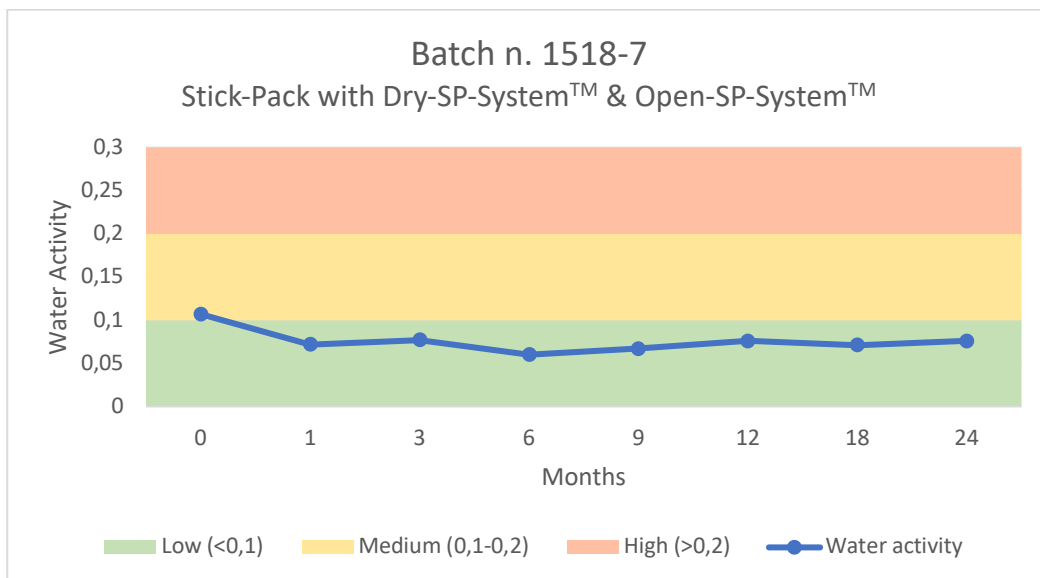
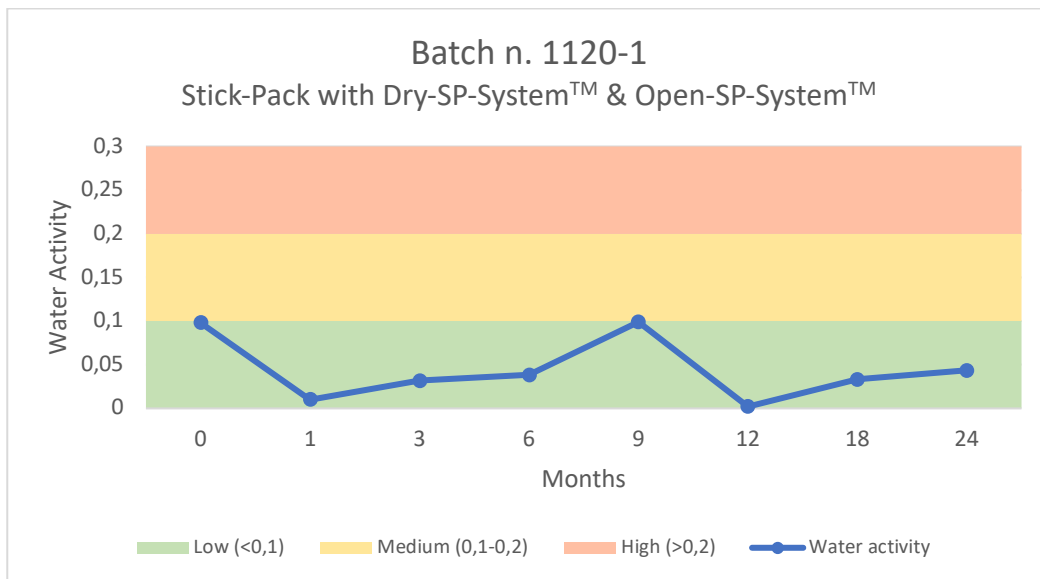
In the production of a probiotic supplement it is therefore essential to reduce the presence of free water to values below 0.1.

Truffini controls that free water remains at optimum values thanks to the Dry-SP-System™ & Open-SP-System™ and Multi-PW-Pack™ technologies, preserving the viability of probiotic strains until the end of the shelf-life of the product.

Below are the free water trends analyzed in some of our probiotic products:







Considering the data obtained on probiotic products formulated in stick-pack with Dry-SP-System™ & Open-SP-System™ and in a bipartite sachet with Multi-PW-Pack™ technology, we can conclude that our patented technologies are effective in controlling and maintaining water activity at optimal levels, preserving the stability and quality of the finished product.