

“However, there is limited information and evidence on the effects of synbiotics on oyster mushroom cultivation,” she explained.

This research aims to address the challenges faced by mushroom farmers in achieving consistent yields of high-quality mushrooms.

She stated that the synbiotic booster has been proven to enhance the nutritional value and antioxidant content of oyster mushrooms, making them a more nutritious option with potential benefits for the mushroom industry.

“This product is safe to use as all its active ingredients are recognised as safe.

“However, continuous research is needed to optimise the prebiotic effects derived from pineapple waste and to explore the potential application of this product on other types of mushrooms besides oyster mushrooms.

“The idea for this study arose from issues reported by mushroom farmers in Malaysia, who face inconsistencies in mushroom yield and quality each season,” she added.

The research began in 2022 and was fully completed in 2024.

The study was conducted in collaboration with the Malaysian Pineapple Industry Board (LPNM), which supported the use of pineapple waste as the main ingredient in this product and assisted in its application to increase mushroom yields among local farmers.

She added that the synbiotic booster utilises a blend of prebiotics derived from pineapple waste and probiotics such as *Lactobacillus plantarum* and *Lactobacillus casei*.

“This formula aids mushroom growth by improving the viability of beneficial microorganisms in the cultivation medium.

“The uniqueness of this product lies in its synbiotic combination, the first of its kind in mushroom boosting, which blends prebiotics and probiotics to effectively improve the quality and yield of mushrooms.

“It is hoped that this product will positively impact the achievement of the Sustainable Development Goals (SDG), particularly SDG 2 (Zero Hunger) and SDG 12 (Responsible Consumption and Production) while contributing to better environmental, social, and governance outcomes in Malaysia,” she explained.

She also mentioned that by optimising the use of pineapple waste, this product contributes to resource sustainability and the local economy.

By: Hafizatulazlin Abdul Aziz, Centre for Corporate Communications

Translation by: Dr. Rozaimi Abu Samah, Faculty of Chemical and Process Engineering Technology